NSE-NYU Indian Financial Markets Conference

Edited Transcript of

Keynote Speech and Panel Discussions

Mumbai, August 4, 2014

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Preface

The absence of a stable and efficient financial system can potentially have serious consequences not only for the financial sector but also for the economy as a whole as evidenced by the recent global financial crisis. The crisis has underscored the need for strong financial institutions in addition to prudent macroeconomic policies. While countries around the world are responding to this need, it has been particularly important for India, which has begun to assert itself in the global arena, to debate on key issues relating to the efficiency and stability of its financial sector.

As part of its continued efforts to provide research support for effective policy making, NSE had organized in collaboration with NYU Stern School of Business an international conference 'NSE-NYU Indian Financial Markets Conference' on August 4-5, 2014. This conference was the second in the series and *inter-alia* involved a keynote address by Dr. Arvind Subramanian (Dennis Weatherstone Senior Fellow at the Peterson Institute for International Economics) and two panel discussions.

In his keynote address, Dr. Subramanian did not talk much about Finance. Instead, he gave his perspective on India's 'precocious development model', with some interesting dimensions and puzzles of this model, particularly relating to growth, trade and FDI. One fascinating fact, for example, to which he drew our attention was that the Indian economy is specializing in services which is generally the comparative advantage of rich countries.

The first panel discussion, which was on *Global Competitiveness of Indian Financial Markets,* was part of an attempt to revive a debate that started about a decade ago, but faded out quickly. The panel assessed the depth, efficiency and accessibility of financial markets in India, relative to those in other developing and advanced economies and also discussed the macro underpinnings of Indian financial markets. The deliberations in the panel revealed some important regulatory reforms that could improve the international competitiveness of Indian financial system.

The second panel discussion on *Inflation Targeting for India* was, in contrast, a new debate in India. It was set against the backdrop of the Urjit Patel Committee report (2014) which had recommended a consumer price inflation target of four percent with a two percent band on each side. In India, does inflation targeting make sense; if so, in what ways and under what conditions? These are some of the questions that the panel discussed, drawing on the experiences of other emerging markets that have adopted the inflation targeting framework.

I take this opportunity to thank all the panellists for their valuable contribution. I am also grateful to Prof. Viral Acharya for playing wonderfully the role of moderator in both the panel discussions.

The deliberations of the keynote speech and both the panels have been captured in this edited transcript and we believe that the transcript would be useful for industry participants, academics and policy makers.

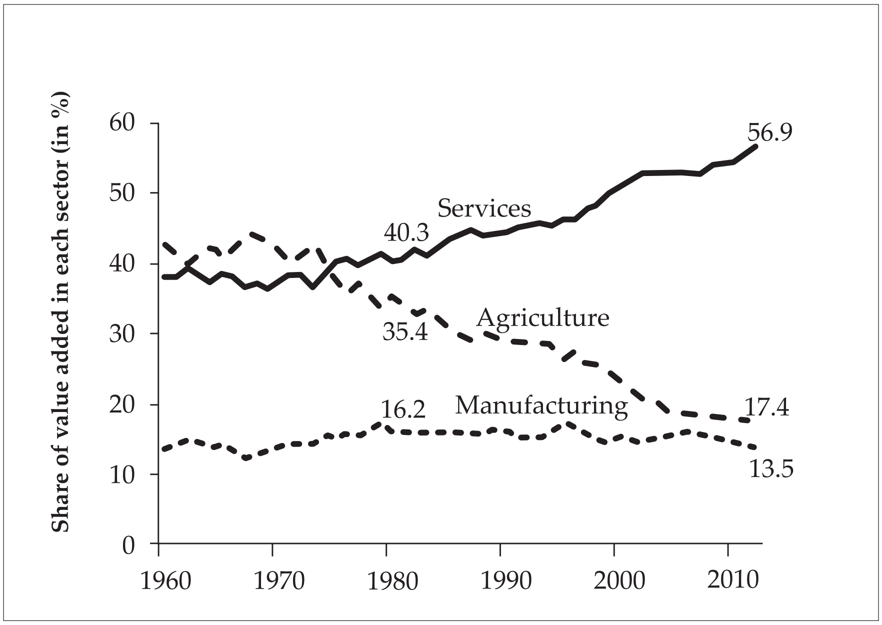
Nirmal Mohanty
Head, Department of Economic Policy and Research
National Stock Exchange of India Ltd.

Keynote Speech by Dr. Arvind Subramanian, Peterson Institute for International Economics

It is a pleasure to be here. I would like to thank Viral and the NSE for inviting me to deliver the Keynote address at this conference. Today, I will not talk much about finance. What I want to do is to step back and think about India's development model. While there are plenty of things to say about India, I have a particular perspective in terms of the precocious development model. I would like to run through some very interesting dimensions and puzzles of this development model. When I think about development, Solow's famous statement comes to my mind: "When you start thinking and writing about development, it always begins with great rigor initially and then ends in a blaze of amateur sociology." My talk today is going to be a little bit of amateur sociology all the way, not just at the end.

Initially, I will run through the growth-related and macro-related dimensions of the model and then look ahead. When we examine how countries have escaped from underdevelopment, three modes of escape from underdevelopment are generally identified—geology, geography, and genes. While some countries grow on the basis of natural wealth and some on the basis of geography (including tourism), most countries grow because of genes, which is my code word for manufacturing. Countries usually either get into manufacturing or minerals, and subsequently get out of underdevelopment. India is very unusual in this respect.

Exhibit 1: India specializing in rich countries comparative advantage: services



The share of value added in manufacturing in India rose from around 16% in the 1980s to around 17% in the 1990s and 2000s; as of 2014, it is down to 13.5%. Services have been driving India's growth. Therefore, in terms of the precocious development model, India is really specializing in what is normally the comparative advantage of rich countries (see Exhibit 1). Countries generally specialize in services late in the course of development; however, India did this very early on. One should not think about this in terms of manufacturing and services, but in terms of comparative advantage. Rich countries generally have comparative advantage in skills, entrepreneurship, and finance; therefore, they specialise in these areas. On the other hand, poor countries provide cheap labour and commodities, which is how they progress from underdevelopment. However, India is very unusual because it is already exporting skills. Thus, its revealed that comparative advantage is not in cheap labour but in high skills. The trend of providing services is more a symptom of the underlying phenomenon of India having this very perverse form of comparative advantage.

To me, the most startling aspect is that India is an unusually large exporter of skills via outward foreign direct investments (FDIs). You do not expect countries with $2,500 per capita GDP to export skills and/or make FDIs. You expect countries with $25,000 per capita GDP to be doing so; yet, India has been doing this. While China also does a lot of FDI (more than India in absolute terms, but comparable in terms of share of GDP), what is interesting is that China essentially exports FDI in natural resources and to countries poorer than itself. In contrast, India exports FDI to countries much richer than itself, and the exports are not in natural resources but much more in manufacturing (not even in services). It is actually quite bizarre that a country with $2,500 per capita GDP exports high skills in the form of FDIs in high skill sectors to very rich countries. Thus, this is an interesting aspect of the precocious model of India's development.

Another well-known fact about India is that it has sustained democracy at unusually low levels of income over the years and despite social cleavages. In their famous book Why Nations Fail, Acemoglu and Robinson (2012) propose that economic development arises because of political development; the more advanced your political institutions, the richer you are in the long run. However, there are two major exceptions to the phenomenon described by Acemoglu and Robinson. One is India, which has sustained its democracy at unusually low levels of income. The other is China, which is contrary to the Indian case in terms of income (China has high levels of income inequality). However, India is precocious economically (in terms of exporting FDIs to rich countries) as well as politically (in terms of having sustained democracy despite unusually low levels of development).

The general feeling in India is that democracy has not done very well and has not delivered economic outcomes. However, I would like to point out that from a growth perspective, India has not done too badly at all. Dani Rodrik examined the growth patterns of several countries over the last 40 years. He reported that India has grown at about 4.5% per capita for almost 30–35 years, which is extraordinary from a historical perspective. He showed that only four uninterrupted democracies have done better than India has—Japan, Italy, Israel, and Botswana. The other relatively better performers were all non-democratic oil exporters, post-World War II recoverers, or Asian manufacturing tigers. I think it is important to keep this fact in perspective when we criticise the consequences of democracy in India. The flip side of specializing in exporting FDIs and services is that our country is prematurely de-industrializing in many ways.

Exhibit 2: Peak manufacturing (registered) in major states in India

State	Year in which manufacturing peaked	Share of manufacturing in GDP at peak year (in percent)	Per capita GDP at peak manufacturing (2005 Rs.)	Per capita GDP at peak manufacturing (2011 PPP $)
Gujarat	1997	22.8	25,175	2,558
Maharashtra	1986	18.9	15,864	1,612
Tamil Nadu	1990	18.1	15,454	1,570
Haryana	2003	17.3	32,869	3,340
Himachal Pradesh	2011	16.4	46,207	4,696
Karnataka	2008	14.7	34,752	3,532
Bihar	1999	13.6	9,215	936
Madhya Pradesh	2008	12.5	18,707	1,901
West Bengal	1982	12.3	9,348	950
Orissa	2009	12.0	22,779	2,315
All India	**2008**	**10.7**	**30,483**	**3,098**
Punjab	1995	10.5	25,995	2,642
Kerala	1989	10.3	14,418	1,465
Andhra Pradesh	1997	10.0	17,829	1,812
Uttar Pradesh	1996	10.0	11,679	1,187
Assam	1987	10.0	12,904	1,311
Delhi	1994	7.5	39,138	3,977
Rajasthan	2001	8.3	15,816	1,607
Selected comparator countries				
South Korea	1988	27.0	n.a.	10,321
Brazil	1983	30.6	n.a.	7,055
Indonesia	2002	28.7	n.a.	5,804
China	1979	40.2	n.a.	1,783

Note: Even for poorer states manufacturing has peaked at low shares and at much lower levels of development

Exhibit 2 shows that in many states in India, the share of manufacturing in GDP peaked at very low levels (8–10%). In Uttar Pradesh for example, the share of manufacturing in GDP peaked at 10%; the per capita GDP at peak manufacturing was also extraordinarily low. Generally, manufacturing peaks at about \$11,000 or \$12,000 per capita on average; in India, however, it peaked at about one-fourth or one-fifth of this level (in some Indian states, it peaked at about one-tenth of that level).

Another kind of fallacy about India that I always like to dispel is that we think of India as an under-trader, a closed economy, and so on. Despite the fact that big countries tend to trade less, India actually trades unusually high despite the fact that it is poor and a very large country. We all think that China is an unusually large trader; however, India is not too far-off. In fact, over the last 20 years, India has caught up with China in terms of overall trade. Further, the countries that really undertrade, given their sizes, are the United States, Japan, and Brazil. India is no longer an under-trader in that sense. While the policy regime is still very inward-looking, we have done surprisingly well in terms of outcomes.

Another aspect that I would like to talk about in the context of this precocious model of development is the outcomes related to education. Amartya Sen questioned why the educational outcomes have been very poor in a country like India. If you look at Pratham's work on actual educational attainment, India's educational attainment is actually pitifully low, pitifully poor, and declining in some ways. Amartya Sen was puzzled why in a country like India the state never does enough to supply education to the extent that is necessary. One answer is that the returns from education were never high until very recently; once growth took off in the last 20 years, educational attainment just shot up. Thus, in this model of India's precocious development, you get such endogenous sources of change. Education was always poor because the state was never good at providing it. However, once the returns to education went up with growth, the growth itself generated demand for education, which is why we see improvements in educational attainment. This could be seen as an offset to the lagging industrialization point. In this skill-intensive model of development, when the returns on skills suddenly shoot up enormously, it triggers an endogenous response among the people. Thus, the educational outcomes in the country have changed not only because supply has improved but also because the demand for education has considerably increased.

A broader point about this precocious development model is that there is a combination of growth, democracy, and decentralization. There will always be vicissitudes in terms of politics and politicians; if there is one enduring organic avenue for change in India, it is the competition between the state dynamics. As India decentralizes, I think this is going to happen more often. Because of such competition between state dynamics, a few states took the initiative of presenting unusual tax incentives, which is how changes take place in India.

In this context, I think the work of Devesh Kapur is extraordinarily important. Devesh Kapur argues that capitalism as a force of social change actually took centuries in Europe to make its impact felt. If you look at the Dalits in India, you will find that in 20 years, capitalism has done for them what the state could not do for many years, and what capitalism did not do in Europe for 200 years. This statement is based on some survey work conducted in Western and Eastern UP about the plight of the Dalits. It is extraordinary that change has taken place in terms of not only economic outcomes but also social outcomes. There has been a huge change in terms of how many people come to weddings and in terms of whether non-Dalits eat or drink in Dalit homes. The responses to the following survey questions over the period 1990–2007 reflect the seismic social transformation that capitalism and growth in India has brought about: "Do Dalits sit with others at weddings?"; "Do non-Dalits eat or drink in Dalit homes?"; "Do only Dalits lift dead animals?" etc. This kind of social transformation has not taken place at such a rapid pace in other parts of the world. Thus, I think this is something that one needs to keep in mind, especially when we feel overly pessimistic about India. I think Devesh puts it very well that regardless of what is happening to equality of opportunity in India, there have been huge positive changes in the direction of inequality of dignity in India, which should not be overlooked.

Now, I will talk about the precocious development model in terms of macroeconomics. Observing Indian macroeconomics over the last 10 years, I would say that its Latinisation has started. I want to look at this Latinisation more in terms of deeper development dimensions because I think we had an extraordinarily rich discussion about some of the more approximate outcomes. I think this combination of high deficits and inflation and increasing reliance on foreign capital has now unfortunately become a feature of the landscape. I do think that this again correlates to the fact that India really became a democracy only in the mid to late 70s. Otherwise, we had a one-party rule; not only that, we had centralization. India was a fairly centralized polity with Congress in power. Once power started devolving to the states and the Congress monopoly was broken, democratic contestability increased, which has been associated with the rising spending and increasing deficits. Thus, I think there is something to the notion that democracy has imposed this kind of physical burden on India.

Exhibit 3: Countrywise percapita GDP

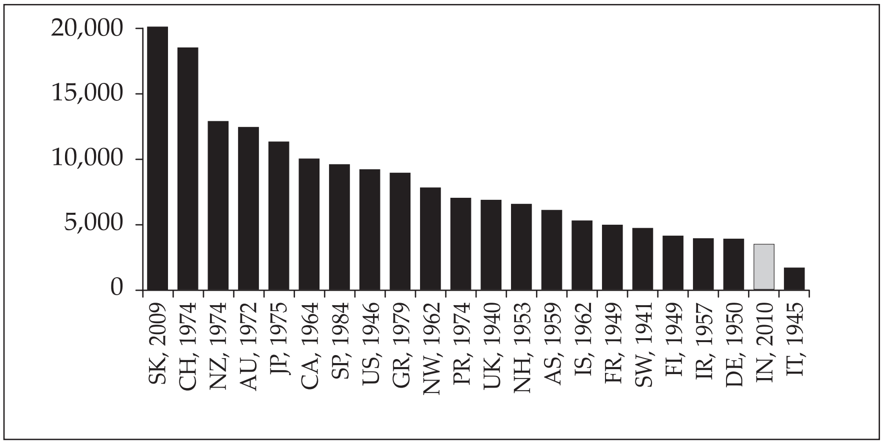


Exhibit 3 presents the GDP per capita at which government spending accounted for 27% of GDP, which is roughly today's level. While most countries reached this level of spending at much higher levels of per capita GDP, India reached it at a fraction of what the other countries required. I would call this a precocious model in terms of macroeconomics.

I think there are at least three things going on in India. Firstly, any poor and unequal country that is a democracy is going to face pressures from the median voter to spend according to the median voter theorem. High inequality in India implies that the median incomes are much lower than the average incomes. In order to appeal to the median voter, redistribution will be endemic in a poor, unequal democratic society. Secondly, at low levels of per capita GDP, there will be very low institutional and fiscal capacity. Therefore, the ability to deliver on the spending outcomes in good ways is compromised. One way to counter this is Rajiv Gandhi's rule that for every dollar that is spent, only 5% goes to the people. Thirdly, historically, Western democracies started redistributing late in the development process. However, India is trying to do this much earlier on. I think that governments acquire the legitimacy to redistribute only after they have acquired the credibility of actually delivering services, which has not yet happened in India. This is not a government that has delivered essential services (at least, not like the Chinese government has done); yet, the government has started to redistribute. When there is no middle-class buy-in to redistribution, there would be widespread exit from the state (as Albert Hirschman would call it), which is what we see in India. For instance, people have their own power generators, live in gated communities, and send their kids to private schools or colleges abroad. All this happens (all of which is intrinsic to the precocious development model of India) because of the pressure to redistribute, which leads to this pressure to spend, thereby leading the inflation. In order to understand the macroeconomic pathologies of the last 10–20 years, you would have to understand these much deeper things going on in terms of India's precocious development model.

The final extraordinary piece of this puzzle on the macro side is that even after 70 years of independence, the ratio of direct taxpayers to voters is less than 5%. Direct taxpaying is important because development (especially in terms of political and economic institutions) requires this two-way connect between the citizens and the state. One part of this glue is the economic contract. The economic contract is that the state provides certain services and in turn, people contribute via taxes; here, people have the incentive to hold the state accountable. Thus, "no taxation without representation" is absolutely fundamental to economic development. India has had the political part of this in place for 60–70 years (i.e., everyone can vote). While the charm and romance of Indian democracy is absolutely fantastic and thoroughly deserved, the economic counterpart has been lagging. People feel a connect with the state when they pay direct taxes or some kind of user fees. In India, for the past 75 years, 95% of the people are disconnected from the state. Now this has a radical implication. If you ask me why the Indian democracy has not worked in terms of delivering services or essential outcomes, in some ways, it is because the pressure to deliver does not exist. This is because the citizens do not have an incentive to hold the government accountable since they do not pay direct income taxes. I think this combination of the spending side and the fact that we have this major deficiency in the economic prerequisites of sustaining democracy in accountable institutions is the reason why this precocious developmental model is taking its toll on Indian macroeconomics.

I want to focus on an unusual fact of Indian inflation. A comparison of Indian inflation rates and the average rate in other comparable countries shows that we never exceeded the average inflation in other countries. It is only in the last five years that we have had higher inflation on average compared to the rest of the world, which is very unusual. In the era of the Hindu growth, though we were laggards in growth, we could at least claim that we had macroeconomic stability. This actually makes me proud about the Indian approach to macroeconomics, which I fear we are losing. My own view is that the social consensus in favour of low inflation has eroded substantially. While I think this happened partly because of growth and the expectations that it generated, it is probably far more complicated than that. Thus, my response to those aiming for inflation targeting (IT) would be that if society wants low inflation, we do not need inflation targeting. If society cannot accept low inflation, IT will not work. One manifestation of this is that we still have policy rates that are negative with high inflation. This is because this is a political process. In India, the RBI cannot actually do whatever it wants on the inflation front.

The other side of the Latinisation of the economy is this irreversible financial integration. Under the UPA government, there was a slide towards irreversible financial integration. In some ways, the reason why we were affected by the 2008 crisis was because we were much more exposed internationally than we had ever been before.

Of course, the other side of it is that we have had reasonably high current account deficits. You cannot run a modern economy with capital flows and exchange rates with this sort of current account deficits. I think this is always a recipe for volatility, as we saw last year. Here is where I am going to be a bit controversial. I think that one of the big policy mistakes of the UPA government was opening up the capital account. We were a country that was very prudent in terms of foreign capital (I think one part of it is vested interest). Since foreign interest rates were low, there was a lobby in India that wanted cheap borrowing, which they got.

Two sets of ideas have driven this change. One is the notion that financialisation per se is very good. Financialization of the economy and both domestic finance as well as foreign finance is considered to be unambiguously good; however, I would argue that this notion is certainly not uncontested and uncontroversial. The other problem is the mindset that comes from this development paradigm. I think most Indian development economists believe that the biggest constraint to development is an inadequacy of savings. Economists such as Rosenstein-Rodan and Nurkse argue that you need a certain amount of investment. A country that is poor does not have domestic savings; therefore, it would need foreign savings and foreign aid.

China and the East Asia are examples of pre-eminent development successes in the last 30 years. They have shown that too much savings is a problem. If you grow fast enough, you will have excessive savings, and you will be exporting savings (of course, they adopted a particular strategy to do so). However, in India, we had a huge advantage unlike in Latin America. Latin America had liberalised very early so they could not really go for a model of development similar to China's because it is very difficult to reverse financial liberalisation. However, India had the enormous advantage of being a relatively closed economy and having the option of not opening up. China did not open up. In some ways, China's greatest policy non-decision was to not open up the capital account even after 22–25 years of their growth miracle, despite being told by everyone to do so. For another 10 years, they rode on the mercantilist wave (at the expense of the rest of the world). They kept their capital account closed; their exports boomed, and they had another 10–12 years of rapid growth. While this decision was not costless, they proved once and for all that savings is not necessarily a constraint on development. In India, we believe that we need foreign savings, which is something that needs to be debated. We are losing the battle because we have become so open now that it is going to be very difficult to reverse this stance. We need to really reflect on this much more carefully. One of the things I would like to point out in this context is the Indian macroeconomic trilemma that Dani Rodrick and I have independently talked about. This macroeconomic trilemma relates to the precocious development model. If you have a weak young democracy, you can have either global financial integration or macro stability; you cannot have both. That is, only two of these three are compatible. According to Dani Rodrick, open economies usually tend to have bigger governments because they are much more exposed to volatility; therefore, you need safety nets to cushion against that volatility on the trade side and especially on the finance side. I would argue that one way of interpreting the recent past is 'we are a weak, young, premature democracy in macro terms'. Regarding the pressures to redistribute, we do not have a social contract on the taxation side, and we are overloading the economy with global financial integration. Despite an already weak democracy burdened with fiscal commitments, India had to supply even more funds because of global financial integration. When India did not have global financial integration, it had stability. Thus, I think we need to think about this macroeconomic trilemma very seriously.

India has a precocious development model in terms of growth, trade, and FDI. How do things look going forward?

If you were to ask me how India is going to change in terms of macro outcomes and growth outcomes, I would say two things. My basis for hope in the future is essentially the combination of decentralization and more responsive politics (this is based on some work with Milan Vaishnav at the Carnegie Center). This can be analysed through the vote share in India in different periods of time (1980s, 1990s, and 2000s) depending on economic growth. In the 2000s, governments that broadly deliver in terms of economic outcomes are increasingly getting re-elected in state elections. The great post-modern philosopher Donald Rumsfeld said, "You go to battle with the army you have." I think there is a corresponding analogy here on the political side. When people say we need to be more autocratic, you really should go to bat with the political system you have, not with the political system you wish you had. So the question should be: How will change come about given the existing political system? You have decentralization and competition between states; in a precocious democracy, politics becomes much more responsive. The only hope for India is good economics becoming good politics as well, and we see signs of that happening to some extent. I am not discounting the role of the government in this change.

In a democracy, people are political animals. In India, people are seen as economic animals. I think we have not seen that positive force to the extent that we should. In China, there has been unconditional convergence. The poorer you are, the faster you grow and catch up with the rich countries. Migration has been a huge force for economic development and convergence in China. There are about 250 million people in China who do not live in the province in which they were born. About one-third of the labour force is mobile, which creates pressure. Thus, if one province does not do well, people move out from there. Consequently, productivity goes down there, while it goes up in the provinces where they choose to settle. This is what brings about convergence. However, the situation in India is exactly the opposite. If we compare different states over any reasonably long period of time, we find that even in 60 years, there has not been much convergence in India. Rich states are still growing faster on average than the poorer states are, and inequality across the states is rising. I hope one can be very confident that in our democracy, people are increasingly voting as political animals to bring about change. Now, we need to see that next step involving endogenous changes in India. People should move to where opportunities exist, which would create dynamism in productivity. I think this is absolutely essential to move from this precocious development model to a model where there is an increase in prosperity and standards of living. Then, we can be proud of India catching up in terms of standards of living and so on.

Panel Discussion I: Global Competitiveness of Indian Financial Markets

Panellists: **Ratna Sahay**, Deputy Director - Monetary & Capital Markets Department, IMF
Sajjid Chinoy, Chief India Economist, JP Morgan
Susan Thomas, Assistant Professor, IGIDR
Vinay Nair, Managing Partner, Ada Investments
Moderator: **Viral Acharya,** Professor, NYU Stern School of Business

Viral Acharya: We have two panel discussions as part of this conference. The first panel is on the "Global Competitiveness of Indian Financial Markets". The four panellists are Ratna Sahay (Deputy Director in the Monetary & Capital Markets Department at the IMF), Sajjid Chinoy (Chief India Economist at JP Morgan), Susan Thomas (Assistant Professor at IGIDR), and Vinay Nair (Managing Partner at Ada Investments).

The panellists will speak about the global competitiveness of Indian financial markets cutting across a variety of issues related to equities, bonds, interest rate, forex markets, gold markets, the role of foreign institutional flows versus those of domestic institutions, raising of foreign funds by Indian companies, the prospect of foreign companies potentially being listed here, and so on. Importantly, they will touch upon the macro role played by regulatory institutions such as the RBI, the SEBI and other regulators as well as regulatory tools such as statutory liquidity requirements. Perhaps, they will also discuss the macro role for markets that is played by the current fiscal situation in which the government might find itself.

We begin with Ratna Sahay.

Ratna Sahay: It is a real pleasure to be here, and I would like to thank the NSE and NYU for inviting me to be a part of this panel discussion. I will open by presenting some data about different countries—cross-country comparisons form one of the IMF's comparative advantages.

I will take up three discussion points. (1) Are Indian financial markets competitive? (2) Are they deep? (3) Can the problem of low financial depth be fixed?

Are Indian financial markets competitive?

To analyse the competitiveness of Indian financial markets, we can examine the statistics of the 188 IMF member countries. In this large sample, only nine countries are dominated by state-owned banks. Whether this is good or bad can be determined in terms of the productivity of bank employees, number of ATMs per million people, and intermediation cost.

In terms of the productivity of bank employees (measured by the number of transactions per hour), we find that Indian banks complete only 12 transactions per hour. This is really inefficient compared to the U.S. where there are about 100 transactions every hour. However, within the Indian banking sector, it is very clear that the private banks (which complete 55 transactions per hour) are much more competitive compared to the public sector banks (which do only 10 transactions per hour).

If we gauge the efficiency and competitiveness of Indian financial markets in terms of the number of ATMs per million people, we find that India has 19 ATMs compared to 193 in Brazil and 51 in China.

Finally, the intermediation costs for India are pretty high at 5% on average as compared to other emerging markets such as Thailand (4%); China (3.4%) and Singapore (2%). Thus, the bottom line is that Indian financial markets are not competitive.

Are our financial markets deep?

If we consider the overall credit (which includes all kinds of credit, not just bank credit), one can see that the size of credit to the private sector in India is extremely small compared to that in both advanced countries as well as other large emerging markets. For instance, the private credit to GDP ratio for India is 51%, which is relatively low compared to that for China (133%), Brazil (70%), and South Africa (67%). The private credit to GDP ratio for advanced countries such as the U.S. and the U.K. is 135% and 158%, respectively. Banks are constrained in financing the real economy (particularly long-term financing) for three main reasons: (a) there are large non-performing assets (NPAs) and restructured advances; (b) priority lending requirements constrain the lending to other (perhaps more productive) projects; and c) the new BASEL-III regulations impose certain constraints, especially on long-term financing.

Within the Indian banking sector, the public sector banks are particularly affected in terms of restructured advances (around 6–7% of outstanding advances) and NPAs (at 3–4%).

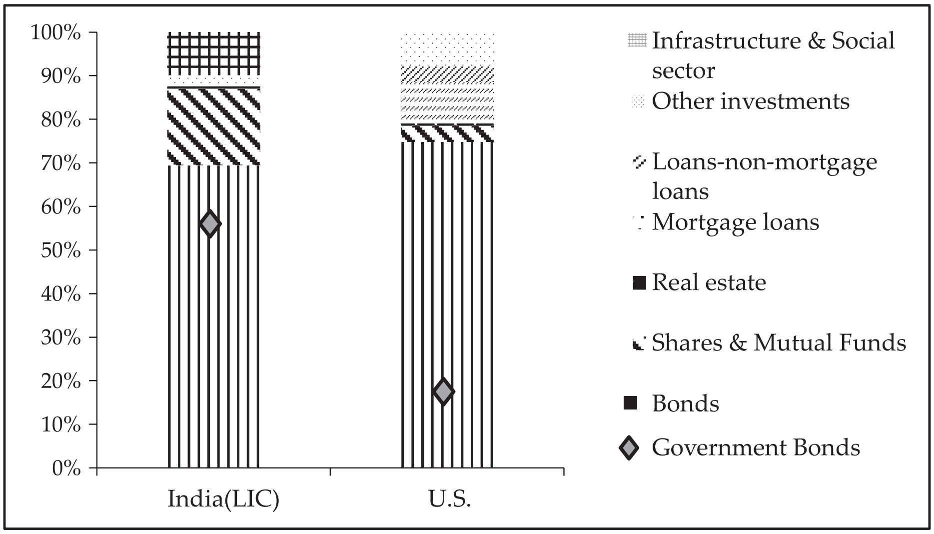
Let us look at some other markets, such as the corporate bond market. This market is small within India. However, from an international perspective, it is even smaller compared to those in advanced countries or other emerging markets. An interesting development during 2007–2014 was that the issuance declined dramatically for non-financial corporates. The issuance of financial corporate bonds has not fallen over this time period; however, it is still very small compared to that in other countries.

If we look at the equity market, it is quite advanced from an international perspective, thanks to the NSE, in large part. There have been quite a few legislative changes (about 10), which have really helped to develop this particular market. The equity markets' contribution to private sector financing is quite large relative to that of fixed-income issuance. Thus, whether our financial markets are deep depends on the specific market under consideration.

Can something be done about low financial depth?

I will focus only on the bond markets in this discussion as that is where I see large scope for growth. In this context, one has to ask: from which long-term institutional investors can the demand come? Demand can come from pension funds and life insurance funds. In India, the investment in pension funds as a percentage of GDP is only 5% compared to 74.5% in the U.S. Only about 11% of the workforce is covered. Thus, there is tremendous scope for growth in pension funds, and we are likely to see this happening in the future. However, the story is quite different for life insurance funds. In terms of size, the investment in life insurance in India is quite comparable to that of the U.S. However, in terms of how life insurance companies allocate their assets, the contrast with the U.S. is quite striking, as shown in Exhibit 1.

Exhibit 1: Comparison of Life Insurance Asset Allocation in India and the U.S.



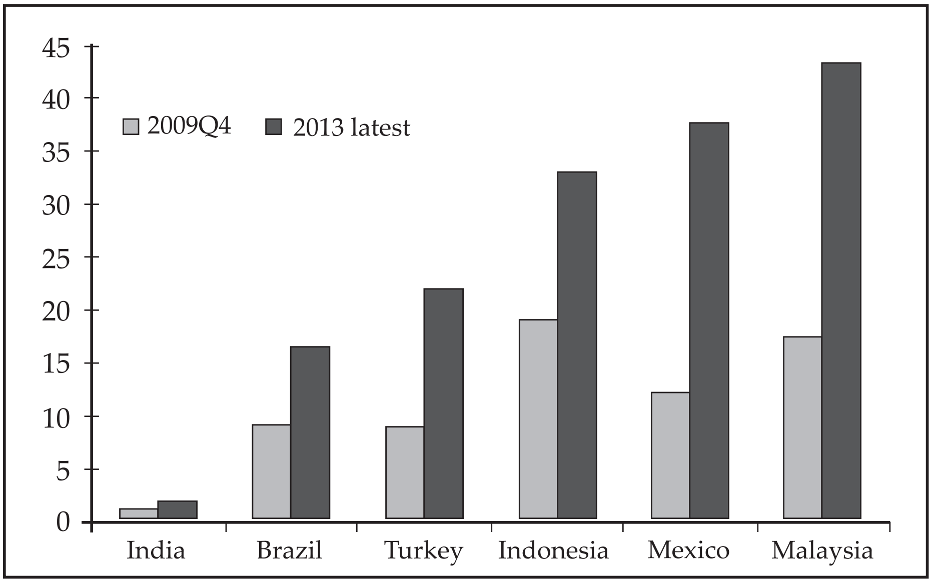
Source: Life Insurance of India Annual Report: Mercer; IMF staff

Note: Data as of end 2011; except LIC: March 2013

Exhibit chart shows how life insurance companies in India and the U.S.

allocate their assets. The number or the proportion of bonds in India and U.S. is comparable. However, if you look at the little diamonds in Exhibit 1 (which represent government bonds), 60% of the fixed-income assets in India are government bonds, whereas in the U.S., government bonds constitute less than 20% of the fixed-income assets. That is, in India, government bonds are crowding out any other type of investments that life insurance companies can make (such as corporate bonds). Thus, there is scope for growth here, or at least the scope to reallocate away from government bonds towards corporate bonds. I think it is not just domestic investors who can fill the gap but foreign institutional investors (FIIs) as well—this trend has been observed in many emerging markets (as shown in Exhibit 2).

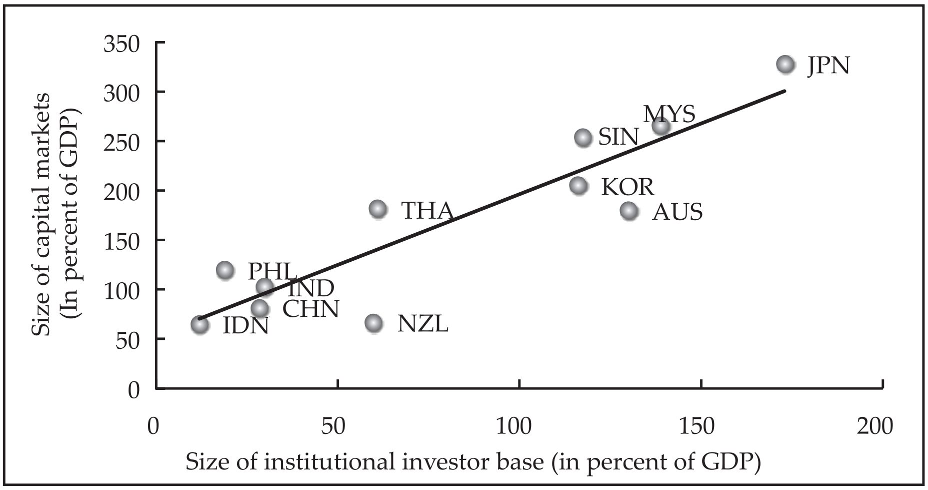
Exhibit 2: Foreign Ownership of Local Currency Government Debt (%)



Source: JP Morgan; IMF Staff

Exhibit 3 examines the size or the depth of capital markets and the size of institutional investors across a number of countries. It is very clear that capital markets deepen only when institutional investors come in.

Exhibit 3: Size of Capital Market and Institutional Investor Base in Different Countries



Sources: BIS, Debt Securities Statistics; Bloomberg; IMF, World Economic Outlook database; Various authorities' reports; and IMF staff calculations.

One concern that has been raised about foreign investors is that their presence could destabilise markets when the tides turn. In a recent paper that I co-authored on the impact of unconventional monetary policies on emerging markets and how asset prices vary, we examined whether foreign investors stabilise or destabilise the market. Theoretically, both results are possible. When foreign investors come in, they deepen the markets. However, when economic conditions worsen, they are among the first to leave. Empirically, in our study, we found that if the share of foreign investment in local debt is higher, it leads to greater depth and has a stabilising influence. We also looked at the bid-ask spread and asked the question: How do exogenous shocks impact markets that are deep or thin? We found that when markets are deep, the impact of shocks was dampened more. There is also evidence to suggest that foreign institutional investors tend to stay much longer than others with shorter-term horizons do.

In sum, there is one key message I would like to leave with you. Financial markets in India can be deepened by encouraging the growth of the institutional investor base (both domestic and foreign) and by allowing for a reallocation of their investments towards corporate bonds. Thank you.

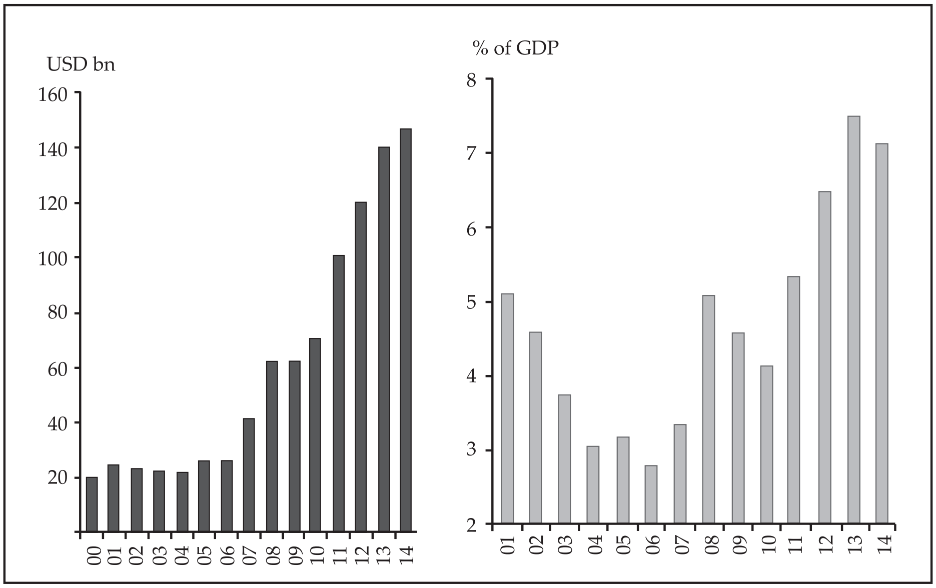
Viral Acharya: Our next speaker is Sajjid Chinoy.

Sajjid Chinoy: I am going to focus on the macro underpinnings of financial markets in India. I will consider four dimensions: financial depth (size and liquidity of markets); financial access, i.e., the extent to which agents and individuals have access to financial markets and instruments (the issue of financial inclusion); allocative efficiency, i.e., how good a job Indian financial markets do of intermediating savings from households into productive investments; and finally, concerns about financial stability.

I start with some stylised facts. While Ratna focused on cross-country comparisons, I will limit myself to time-series data on India. Household savings in India can be decomposed into two forms: physical savings and financial savings. Post the Lehman debacle, there has been a disintermediation of household savings from financial savings to physical savings in real estate, gold, and a variety of other instruments.

One stylised fact that we need to rationalise at some point is the import of gold by households (which can be thought of as capital outflow in the balance of payments) and a simultaneous massive rush for external commercial borrowings (ECB) by Indian corporates. In exhibit-4 (see below), the left-hand side chart represents the ECB stock in billions of dollars. The right-hand side chart in Exhibit 4 represents the ECB borrowing stock as a percentage of GDP. ECB is constrained by regulatory policy; if the regulations were more liberal, we would have seen more firms borrowing. This is important because we are not sure how much of this borrowing is hedged, which raises questions about open currency exposures and financial stability. In July and August 2013, the rupee was in a free fall, in part because of a lot of corporates with open positions were rushing to hedge. Thus, ECBs do create concerns about financial stability.

Exhibit-4: External Commercial Borrowings in India

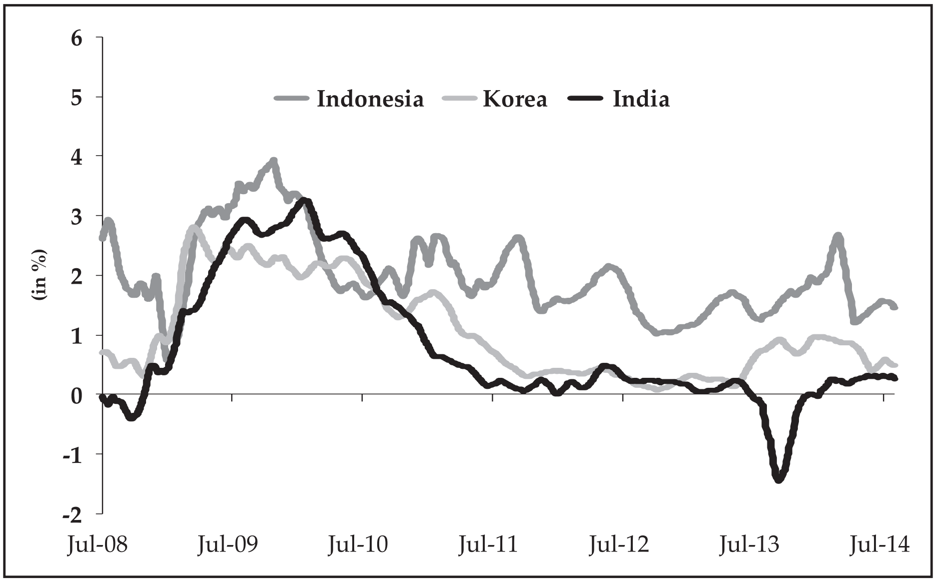


Source: CSDS Post –poll

Further, the fact that Indian corporates would rush to borrow overseas is *prima facie* a tell-tale sign that domestic markets are either not very competitive or not very deep.

Another stylised fact that we should explain is why India has a relatively flat yield curve. Exhibit-5 (see below) plots the steepness of the yield curve of various emerging markets. Relative to that of Indonesia and Korea—and indeed, even Thailand and Malaysia—India's yield curve is quite flat. Of course, the steepness (or lack thereof) of the yield curve depends on the business cycle, and whether you are in a rate-hiking cycle or rate-cutting cycle. However, if you adjust for the business cycle movements and consider long periods of time, we find that relative to many of our peers (countries), we do have a pretty flat curve. The upshot, however, is that when there is insufficient term premium to incentivise savings in longer-duration assets, the curve will be significantly less flat.

Exhibit-5: Comparison of the Yield Curve of Emerging Markets



Source: CSDS Post –poll

Where is the financing for infrastructure coming from? There is low pension penetration and a very shallow market of long-term contractual savings. The market that currently exists is eventually diverted towards the financing of central or state fiscal deficits. We have a severe lack of depth in the non-financial corporate bond market and insufficient liquidity in the secondary markets. Therefore, the infrastructure sector is largely being financed by banks, which leads to asset-liability mismatches. What causes this allocative inefficiency? That is, despite the kind of households savings rates that we have, why is it that we cannot internally fund infrastructure?

These are just a few stylised facts: financial disintermediation of households; a very flat yield curve; great rush for ECBs; and allocative inefficiency in the sense that with the kind of household savings rates that we have, why is it that we cannot internally fund infrastructure development?

The three drivers of the macro imbalances are: high inflation and high inflation expectations; elevated fiscal deficits and high pre-emption levels; and high intermediation costs.

First, let us consider inflation expectations. Over the last 10 years, retail inflation in India has been 8.5% on average. Post the Lehman debacle, inflation expectations have become very deeply entrenched. Given that inflation expectations are very high, the real rates of return on financial assets have largely been negative post the Lehman incident (using the contemporaneous inflation measure). If I use the one-year-ahead inflation expectation, the returns would be even more negative in recent years. Undoubtedly, there are multiple reasons why people may buy real estate or gold. However, the fact that the real rates of return have been so negative in the last 3–4 years, probably explains some part of the financial disintermediation.

High inflation expectations have impeded monetary transmission as well. In times of tightening cycles, there is good transmission. In cutting cycles, however, it becomes very difficult for banks to lower deposit rates and respond to policy signals because of high inflation expectations. Thus, sticky inflation leads to both high disintermediation as well as very low monetary transmission. This is one factor causing the macro imbalances.

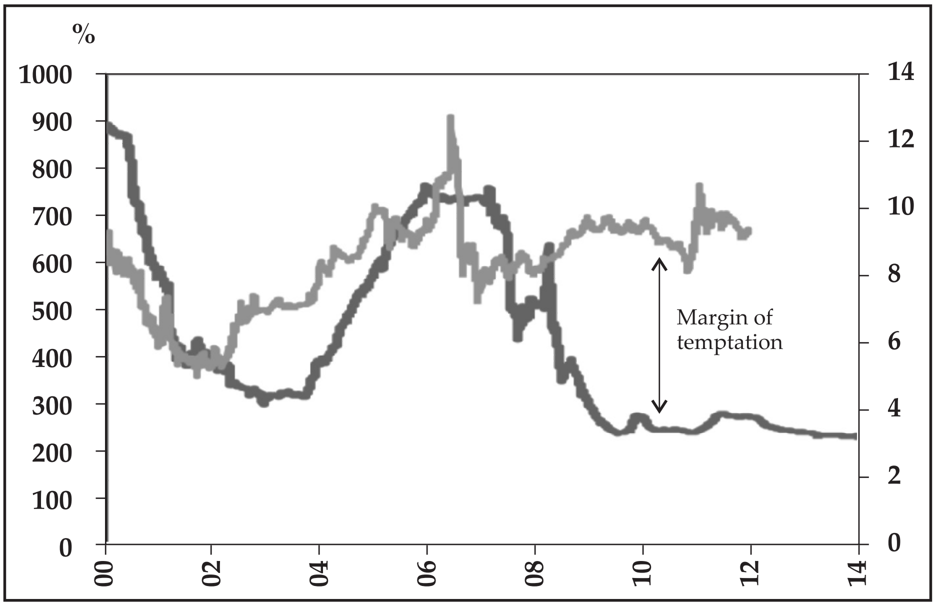
The second factor is elevated fiscal deficits with very high pre-emption levels. Given the current 4% cash reserve ratio, statutory liquidity ratio, and priority sector lending requirements, 50–60% of all bank deposits are being pre-empted.

Thus, there is a high rate of disintermediation, deposit growth that is not buoyant, and massive pre-emption on account of using bank balance sheets as a captive source of financing fiscal deficits.

The third factor is high intermediation costs. About 75% of the assets are in public sector banks, which have relatively high operating cost structures. There are other issues such as NPA recoveries and high net interest margins (compared to those in other parts of the world). Thus, there is a sort of triple whammy: financial disintermediation compounded by resource pre-emption and high costs of intermediation. The net result is structurally high nominal rate for borrowers, which induces them to borrow abroad and take on currency risk.

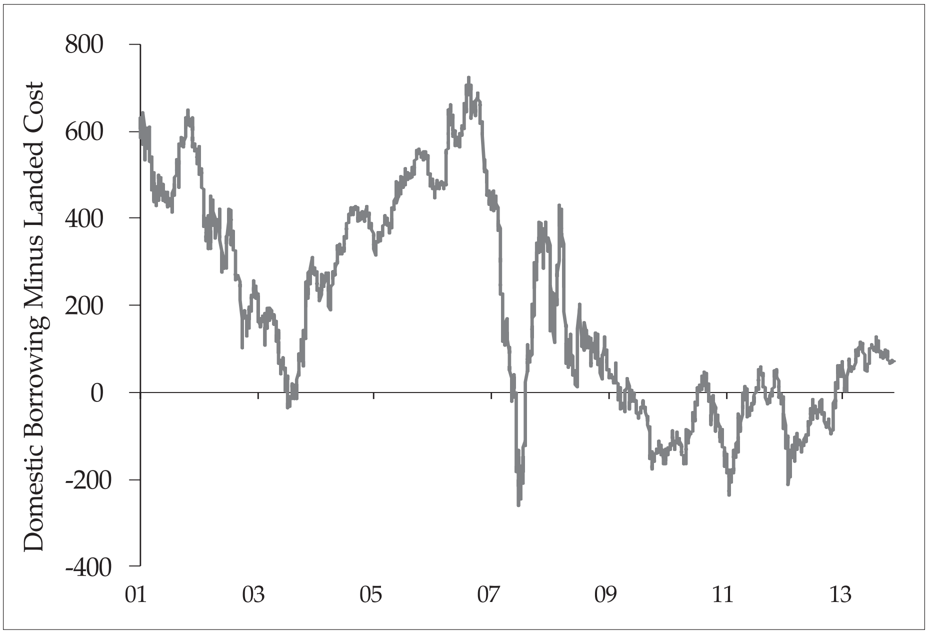
This can be explained further using the chart in Exhibit-6 (see below) as a proxy. In Exhibit-6, the AAA 5-year corporate bond can be considered as the floor of what corporates really experience on shore, whereas the blue line is the equivalent of funding costs abroad (LIBOR plus 200-300). The "margin of temptation" as coined by the late Professor Ronald Mckinnon is the margin that induces firms to borrow in foreign currency and not hedge the currency risk if they believe the rupee will not depreciate much. The worry over the last few years is that lending rates have been structurally high in India. Given what has happened to the global economy, the margin of temptation for Indian corporates to borrow offshore and not hedge that risk has grown, which raises concerns about financial stability. Since India does not have a perfect capital account convertibility, "covered interest parity" does not hold; the interest differential is not exactly equal to the forward premium.

Exhibit-6: AAA 5-year Corporate Bond vs. LIBOR + 200 bps



The closest proxy in India is the Mumbai Interbank Forward Offer Rate (MIFOR). Exhibit-7 (see below) shows the difference between the domestic cost of borrowing and the foreign cost of borrowing after being hedged. As long as the difference is positive, even if you borrow from abroad and hedge, it would still be cheaper compared to borrowing domestically. Between 2004–2007, for example, the rupee was in an appreciating trend, and forward premium had come down. Therefore, even after borrowing and hedging, it was still much more expensive to borrow domestically, which takes us back to the competitiveness (or lack thereof) of domestic financial markets. Of late, the situation has reversed. The question remains whether the margin of temptation (unhedged) would continue to be significant for Indian corporates.

Exhibit-7: Domestic Borrowing vs. Foreign Cost of Borrowing after Hedging



Source: CSDS Post –poll

The final issue that I would like to speak about is why there is no corporate bond market. There are institutional, regulatory, and macro constraints on the demand side: (a) pension/insurance funds are constrained to largely invest in G-secs; (b) banks prefer loans to bonds because of mark-to-market issues; and (c) FIIs are reluctant to take on non-government credit exposure. The reason for not taking on exposure to non-government credit is due to constraints on the issuance side—ECBs are considered a relatively cheaper avenue compared to corporate bonds; there is low secondary volume liquidity, a lack of sizeable foreign participation, and high transaction costs (stamp duty, disclosure requirements).

Therefore, it is clear why Indian financial markets lack competitiveness and allocative efficiency. Compounding the problem are large fiscal deficits, a flatter yield curve (which disincentivises long-term financial/contractual savings), and high inflation expectations in the last few years, all of which result in financial disintermediation. Further, the banking system is dominated by public sector banks, which have relatively high costs of intermediation. Thus, the market structure and macro imbalances have combined to constrain financial market development in India.

Viral Acharya: Thank you, Sajjid. Our next speaker is Susan Thomas.

Susan Thomas: I have the privilege of being part of the policy thinking on the international competitiveness of the Indian financial system. I would like to share some of that work and findings with you. Perhaps I can kick-off a debate on what is the meaning of international competitiveness because that is a question with which we have constantly struggled. Some parts of the presentation would tend to sound prescriptive; therefore, I must put in a disclaimer: my views and statements are all my own; they do not reflect those of my employer or my funding agencies.

We can understand the global competitiveness of Indian financial systems through two questions. The first question is: Are Indian assets 'best acquired' in Indian markets? For example, an international firm who is a fund manager wants to hold Indian equity either by actually investing in Indian equity or hedging equity risks. Is it best to come to India to do this? This would seem to be the intuitive choice; however, there are many Indian firms that hedge currency risk in international contracts. The related question that we struggle with when we talk about international competitiveness is: Who is the target audience that we care about the most? We find that both participants, i.e., international firms and Indian investors, can be the potential target audience.

Think about a large non-financial Indian firm, such as a manufacturing firm or a firm that is involved in services contracts, with contracts coming up all the time. If this firm were to step out and use the markets to hedge the currency risk (which is something all Indian firms face) and international contracts, where would they trade? This is the second question. Are Indian firms raising capital served as well by the Indian financial markets as anybody else is? For example, if you are an investor or a pensioner in India, are you getting the best pension outcomes compared to someone in another country who is in the same situation?

You would probably agree with me that unless they are constrained to be in India, firms would prefer to do all of these transactions in international markets, even for Indian currency and Indian assets. There are firms abroad that give you better INR/USD hedges compared to what can be achieved in India. Of course, the policy makers have recognised this, and there has been a series of responses. A large chunk of it is in terms of reports that have been in the market such as the MIFC Report chaired by Percy Mistry in 2005, and the UK Sinha Committee Report in 2010 on foreign portfolio investors (FPI). The MS Sahoo Committee Report (2014) talked about making the ADR/

GDR a more feasible or more costless route for Indian firms to raise equity financing. Although the Rajan Committee Report (2008) was primarily about domestic financial markets, it did mention that a very important part of having international competitiveness was to have a vibrant domestic market. Further, the then Finance Minister Chidambaram, in his budget speech of 2013, announced the constitution of a standing council of experts that was supposed to come up with policy recommendations on how to improve the international competitiveness of the Indian financial system. This council was put together in 2013, and I am fortunate to be one of the members of this standing council.

There are a set of core issues towards realising an internationally competitive Indian market. These bottlenecks are common to any part of the Indian financial system; whether it is the equity derivatives markets, the equity financing market, or the debt financing market. Among the various issues affecting global competitiveness, there is the problem of capital controls and rules and regulations. Rules and regulations constitute a singular complaint that comes in from all the participants in any asset market. They complain that regulation is volatile, not easy to pin down, and therefore, it is not very easy to enter the market. Even without capital controls, rules and regulations tend to be a very big barrier for all the participants in the market. Tax treatment is another issue; again, this is just the cost of doing business. I feel that if capital controls as well as rules and regulations were a little more flexible for entry, then people would figure out how to deal with tax treatment.

The lack of a vibrant domestic economic system (which Dr. Rajan referred to in the 2008 report) is another serious concern. When you come in as a large hedge fund or pension fund, you would like to have a large market to take counter positions or to trade. Further, there are frictions including indirect factors or rules of procedure that affect market access. These things are never put down on paper but are in the form of phone calls or implicit nudges in the direction of a certain action, which appear to be a big problem for participants in India.

And finally, there is the market microstructure. We typically hear of the big problem: Why have the Indian financial markets not been extremely competitive when there are global alternatives such as position limits, trading time, etc.? The fact is that we just do not trade our assets long enough. In terms of rethinking the framework, we should focus on three core issues.

(a) Enable wider participation. "Wider participation" is not limited to international participants but includes domestic participants as well.

(b) Allow innovation in products and markets—greater flexibility to participants and less regulatory management. I think that the regulatory framework or the policy framework in India does not quite appreciate that finance is something required by a consumer or an agent and that these needs keep changing over time. In a poorer country, a different set of products holds compared to that in a richer country. Thus, rules and regulations that fixate on one set of products are insufficient; the rules need to be formulated differently for the products of rich and poor countries.

(c) Focus on regulatory effort for preventing market failure. Regulation should focus on ensuring that there is no scam or market manipulation in the market. It should give people the confidence/trust to actually trade in these markets. This is where the prescriptive part of my presentation begins. The broad, national market kind of issues such as the capital controls and tax, are not in our hands. However, I will target two sets of institutions in Mumbai, one is the regulator and the other is the exchanges themselves. What can a regulator do to make life a little easier in terms of improving the international competitiveness of our markets? One is to give regulatory clarity, i.e., to have a well-defined process of regulation making. Issuing a notification at 5:30 pm to all the entities in the market that you regulate is not a good way of carrying out regulations. You need to prepare people, especially if the regulation has a material impact on the way that they do business. Thus, there should be a well-defined process of regulation making. Further, there should be board approval, preparation of a white paper for public comments, post-comment modifications, and adherence to a strict timeline within which these regulations have to be made.

    It is also important to have a negative rather than a positive list. This can be understood through the following example. Contrary to China, in India, every participant in the market assumes that they can only do whatever is prescribed by the regulator. If commodity derivatives are not included in the list of things an FPI can trade in, the automatic assumption is that it is not permitted in India. In China on the other hand, it is the other way around. They have a list of things that you cannot do. The list may say you cannot do commodity derivatives, which means that everything else is permitted. Thus, a positive list is much more inhibitive of market innovation and product innovation as compared to a negative list. I feel that we should think more along these lines. Of course, the regulators should make the regulations acknowledging that there is a cost of doing business.

The second thing that the regulators should do is to provide regulatory certainty. Regulators should stop random and abrupt changes in regulation such as the margin increases on the INR/USD futures in July 2013. Regulators should also stop banning access; for instance, the AD category-I members are not allowed to trade in the INR/USD futures markets. Further, the regulators should stop implementing bans on products and markets (such as the ban on commodity derivatives in 2008–2010). Moreover, the Indian regulators should adopt the handbook process.

The committee that I am part of, has a consultative process on what kind of financial sector regulatory reforms India needs from a legislative perspective. Everything that I have discussed today is the non-legislative part and is a compendium that has been put out as a technical note by the Ministry of Finance, called the *Handbook on Adoption of Governance Enhancing and Non-Legislative Elements of the Draft Indian Financial Code*. It sets out a clean hygienic process of doing regulation that would give market participants tremendous amount of clarity as well as certainty about regulations.

What can exchanges—the other big institutions that influence international competitiveness of the Indian financial system—do in this context? They need to innovate products and processes. One of the things that I realised when looking back at the last 15 years of market development in India is that if the exchanges do not push for something, it does not happen. Thus, if the exchanges do not innovate, if the exchanges do not propose changes, the innovations/changes will never happen. While the regulator can shoot down the suggested innovations, they need to be out there in the open.

Further, there should be an increased focus on lowering the cost of capital to traders. Today, we have a very clean, shiny equity markets system with incredibly lower clearing party risks; however, all this come at a cost. We should constantly innovate to make sure that along with the technological processes we see on the trading end, the cost of capital to traders is reduced.

This is a little radical and nobody really talks about this, but I think that one of the missing pieces in the entire ecosystem in India is public constituencies for financial markets, i.e., the Indian financial system. Exchanges should engage in a lot more constituency building when they make a product proposal or introduce a new process to the market place. There must be a lot more involvement with the public. The whitepapers which discuss the change they are going to propose to the regulator, should ideally be published on the website well in advance so that people know that these changes are being proposed. This would provide support for the idea before it actually hits the regulatory process.

Finally, it is critical to foster research in order to better inform regulation and policy making. One of the things that the Indian policy makers fail to understand is that in the 2008 episode in the U.S., when the U.S. FED or the SEC made abrupt and strong rules about what participants could do, they were standing on decades' worth of research that showed them that there are pros and cons of multiple ways of intervening.

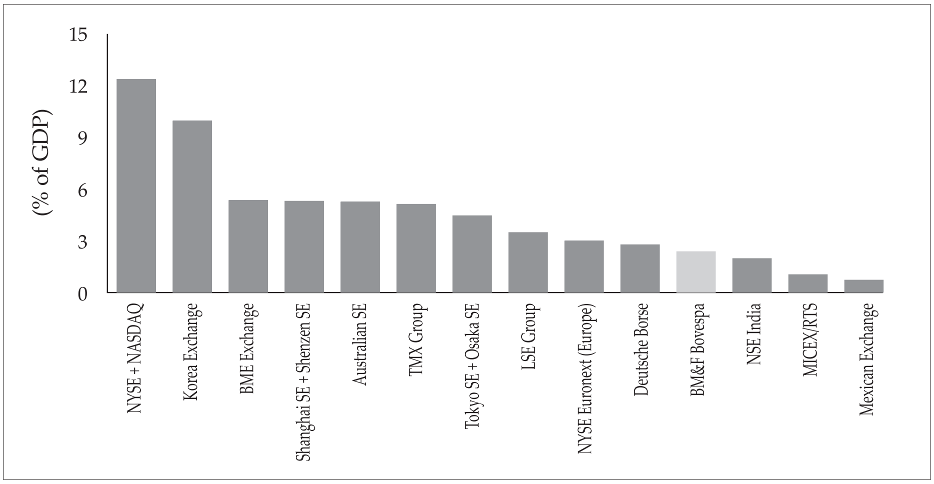
Viral Acharya: Thank you, Susan. Our last panellist is Vinay Nair.

Vinay Nair: Let us revisit the basics. What are capital markets supposed to do? Simply put, they are supposed to match the suppliers of capital with the providers of capital to fund projects, services, innovations, and ideas to run the real economy.

The firms that need capital can raise it through the equity markets or debt markets. The debt markets are a mess in India. Fixing that will require purposeful leadership, and I will refrain from any comments about that. I will focus most of my comments on the equity markets where there has been some very good momentum. It is easier to build on this momentum to make the markets even better.

Exhibit-8 (see below) presents the trading volume of different exchanges. In the NSE, the trading volume is roughly about 2–3% of India's GDP per month. Let us compare some of the countries that are close to India in terms of its lifecycle, such as Brazil and Korea. Korea is an exception; we can see how well they have developed their capital markets. There are more analogies to Korea than initially meets the eye. As I was going through various cross-country charts, it struck me that Korea and India are the only two markets that have a very liquid single-stock futures market. In fact, Korea is the most liquid single-stock futures market, followed by India.

Exhibit-8: Monthly Trading Volume of Different Exchanges



Source: World Federation of Exchanges, World Bank, Americas Trading Group

In the 1960s, Korea had a GDP per capita of about $ 80; these are levels seen in sub-Saharan African countries. A significant part of Korea's growth was due to the improvement in the capital markets that took place over the last 40–50 years. Therefore, I think Korea is an interesting country to study with respect to Indian capital markets, perhaps more interesting than other developed markets such as the U.S.

In what follows, I am going to talk about the Korean experience in some detail. Korea's equity market capitalisation is roughly the same as in India. Some important triggering events caused the development in Korea. The first step that the Korean markets took was to create an exchange and get enough firms to list on the exchange. This was done by establishing the Public Company Inducement Act, an interesting regulatory change enacted in the early 1970s. There was an actual inducement—a reduced tax treatment—for private companies to get listed on the stock market.

In the 1980s, Korea had significant economic activity for capital markets to start playing a meaningful function. In addition, the creation of what was called "people's shares" was another regulatory change that accelerated the importance of capital markets. This change required selected number of firms to actually issue discounted stock to the general population to increase public participation in equity markets. Much like in India, the average citizen in Korea was not predisposed towards equity markets prior to this regulatory change.

I mention these two points because it directly addresses the matching role that an exchange plays by linking the supply and demand of capital. The supply in the Korean case was addressed through people's shares, and the demand for capital was channelled through the establishment of the Public Company Inducement Act.

Subsequently, they took the next step, which was the establishment of the KOSDAQ market that was geared towards small and medium-sized enterprises. Thus, the public equity markets were now not just for the large firms, and the Korean capital markets created the KOSDAQ, which became quite liquid. I think it is useful to point out that the Korean Stock Exchange had no competition during this entire development. I think that the need for exchange-level competition within a country is overstated.

You can now probably see why the Korean market appeared to be an interesting market and something that we could learn from as we think about our public equity markets. In terms of the listed firms, we have a significant number of firms, and we have rigorous underlying economic activity. The main bottleneck appears to be on the supply side of the capital from domestic and international investors. On the domestic front, there are some cultural issues. At the end of the day, given India's demographics (particularly the fact that India has a young population at this point of time in its lifecycle), most of the capital has to come from outside.

We are in very interesting times. Given where long-term rates stand internationally, people are searching for returns; further, higher yield and emerging market opportunities are particularly interesting. If we get a few things right, there could be a significant flow into the Indian markets.

There are few laws that prevent this. For example, when international investors place margin capital while investing in single-stock futures, they do not get interest on that margin, whereas if domestic investors invest in single-stock futures, they get interest on the margin deposit. The situation is different in other markets. For instance, when international investors short in Turkey, they get interest at the Turkish rates on short proceeds. However, this does not exist in India. For international investors to come and invest, I think some simple things such as the rules related to interest on margin deposits can be adjusted to create a level playing field for international and domestic players. Of course, the beneficiaries of the current state are the financial intermediaries—the investment banks and brokers who keep the margin that the international investors are depositing with them. Therefore, I do not expect this change to happen without resistance.

Another aspect that I find quite surprising and frustrating is the poor quality of information associated with firms in India. I do think the quality is much better than what is acknowledged by the international investors. It is often said that there is very poor information disclosure by Indian companies; however, this is not true. There is significant information disclosure without a significant difference in the quality of information compared to other emerging markets. Fixing this perception is perhaps a branding exercise, where we may need a significant ecosystem of service providers to capital markets who function not only in India but also internationally to create the right reputation.

I will make a quick point about capital markets. Capital markets can fund projects, and as far as equity markets go, they can fund ideas. Smaller, younger firms typically go to venture capital, and this is an important piece of equity markets and capital markets. It is unfortunate that in most of the venture capital private equity rankings, India is ranked below comparably sized countries. It is ranked around 30th in this regard. Korea is ranked about 17th. However, Korea is not an interesting market when it comes to venture capital. I would suggest looking at Israel, whose GDP is around $0.5 trillion, has the second highest activity in venture capital after the U.S. What they went through during their evolution is also interesting. They created a government-funded programme in the early 1990s that could match a government dollar for any private sector dollar in any venture investment from international investors. They also made a whole host of other regulatory changes. For example, the venture capital returns that the international investors generated were tax-free. This kick-started a massive infrastructure for ideas and innovation.

To summarise, I think we already have a good start on equity markets in India and building on it would be interesting. Public equity markets need some more work, and venture capital markets are in their early stage. A lot more work is required to build a culture of new firms and new ideas.

Viral Acharya: Thank you, Vinay. I would like to thank all the panellists for the very broad and varied set of things that they highlighted. We went all the way from venture capital to the effects of inflation expectations on the development of markets.

Let me now throw open the discussion to the audience.

Audience: My question is related to pension funds. Is it not the case that the development of pension funds is so low because the jobs in the organised sector are low? Jobs in the organised sector are not created partly because the earlier labour laws kept almost 70–80% of the workforce in the unorganised sector, where there is no pension. Without some of the right kinds of labour market reforms, there will not be an organised sector; subsequently, there will not be a very vibrant pension sector.

Audience: In celebrating the success of the Indian capital market, we highlight the success of equity derivatives, particularly at the NSE. At the same time, the public policy stance is to support equity derivatives. However, there seems to be serious opposition to non-equity derivatives such as debt or forex. Do the panel members think such a paradox exists across the world? If so, is it justified?

Audience: One of the issues in the Indian markets is distress resolution. There are no good bankruptcy laws and subsequent recovery processes. Even the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act has not made any major impact on the banking sector. Unless these issues are addressed, it is going to be harder to develop any sort of bond market.

My second point is about intermediaries. Most of the products in India are sold through intermediaries. However, there is a huge lack of trust in these intermediaries on the part of investors. Further, there are many scams for which there seems to be no resolution. Thus, we need to clean up at the ground level so that the investors are comfortable investing through a third party in the equity market or bond market.

Viral Acharya: I invite the panellists to respond to these questions/comments.

Ratna Sahay: What you said about pension funds makes sense. However, I feel that it is not the main constraining factor because if you look at the insurance sector (which is also an organised sector), it is really well developed. I think there are not enough incentives to create pension funds for two reasons. One is that ageing parents are still mostly looked after by their children; thus, the incentives are not very strong, although we can see changes in urban areas. A second issue is related to how these pension funds will be funded. There are good examples from other parts of the world, such as Chile. The Chilean government created incentives for developing private pension schemes by matching the contributions; this is something we need to experiment with. On the question of debt markets, Raghuram Rajan's report on 100 Small Steps that are well thought out paves the way. For financial sector reforms. I agree that one of the lessons from the 2008 global financial crisis was that countries need to have good bankruptcy laws and good resolution mechanisms. However, I am not sure how constraining that was for the growth of debt markets. Debt markets in other parts of the world such as in Europe did grow even though they did not have very good resolution mechanisms. Consumer protection is another important area for growth in India.

Susan Thomas: About the low participation of pension funds, I think the real problem is the inter-linkage with financial markets; the regulations and the law have kept them out. If a pension fund is worth trillions of rupees, and only 1% of that is permitted into equity, and 0% is permitted into hedging equity risk, you are setting yourself up for very low and very poor domestic participation.

On the other hand, I completely agree that bankruptcy is a critical issue that needs to be resolved. Over the last 15 years, India has done several things in terms of minor changes and semi-major changes to empower people who are creditors to resolve bad debt; none of them have worked. The critical need of the hour is bankruptcy laws. All countries across the world have done it at several stages; the U.K. did it just 20 years ago. Regarding the point on intermediaries, we are making some amount of headway in trusting intermediaries. There are consumer court websites where the cases that are reported and resolved each day are put up according to district-level courts; 50% of those cases are typically against financial counterparties. Thus, people are using this mechanism to get redressal from people who are misleading them.

Vinay Nair: I think when you look at the development of institutional capital and other markets, it is really driven by pension funds, insurance companies, endowments and sovereign wealth funds. However, many of these players are absent in India. In addition, there is an issue of asset allocation categories. Apart from the traditional fixed-income and equity bucket, there is no alternatives bucket such as pension funds. I believe this category is not all that important in India today because of the demographics. However, in Korea, for example, there are massively increasing alternative allocations because of an aging population. They want more stable returns than what fixed income or equity can offer.

About derivatives, Korea has a very liquid market, but only 15 stocks are listed that are single-stock futures. A company's need for financing is met through initial public offering (IPO) markets and secondary equity offering markets, and not through futures. However, with the single-stock futures market, there is a transmission mechanism. The single-stock futures increase liquidity in the underlying stock by more than 50%. Therefore, we could claim that single-stock futures make it easier to raise money for the underlying company. However, it is important to show that link so that the regulators believe that the derivatives market is going to help the real economy through a direct ability to raise more capital easily. Alternatively, there should be a way to show that the derivative is going to help companies hedge out some of the risks, no matter whether it is a commodity company trying to hedge something, or an exporter trying to use currency derivatives. I do not think this is happening much in India with the exception of a few companies; most companies are not using derivatives to hedge out risks. I think that is a crucial link, but detailed research is required to document a real effect.

Audience: My question is related to the observation that Vinay made about the funding of new ideas and ventures for small companies. You mentioned Israel as a model that we should look at. What scope do you see in India for crowd financing, which is quite popular in Israel?

Viral Acharya: I have a question as well. Whenever we talk about the competitiveness of Indian markets, we feel that reforms are needed in a variety of places. It is quite possible that one without the other might not necessarily do as well; therefore, a critical mass of reforms is required. On that front and as proposed by the Financial Sector Legislative Reforms Commission (FSLRC), do you think it is better to have a banking regulator and market regulator, instead of a range of regulators such as pensions, insurance, etc.? Do you think it is advisable to empower one market regulator to do all these sweeping reforms under one umbrella? It might not happen, but at least there is hope for a consensus-based approach—there is one entity who is thinking about everything, and they could potentially make it happen. Do you think this might be a good reason to have this "super regulator" as some people call it?

Vinay Nair: Yes, I fully agree. I think that as the underlying firms (e.g., insurance companies) are increasingly offering multiple products that may have pension-like features, it does not make sense to have different regulators. I think having one regulator for financial institutions seems to be an easier step to regulate everything together. Post the financial crisis in the U.S., there has been a debate about consolidating the various regulators because of information gaps. In theory, I do think it makes sense.

Ratna Sahay: While I fully agree, I want to add that one of the wrong lessons that countries like India could take from the global financial crisis is not to liberalise because you are going to get into a mess. The right lesson is to liberalise but regulate. By regulate, I do not mean simply getting the right acts and legislation, but actually implementing the regulation and the supervision well. This is where governance reforms are very much needed, especially in the public sector. In addition to having a one-stop regulatory authority (which makes perfect sense), we need a Financial Stability and Development Council (FSDC) that is meant for monitoring systemic risks in the economy. This council would be instrumental in developing macro prudential policies to support financial stability in India. Another lesson we learnt from the global financial crisis is that monetary policy may not be sufficient for providing price stability and financial stability. An additional instrument is needed to provide the latter, namely macro prudential policy tools.

Vinay Nair: About the point on crowd funding, I think Israel is an interesting market. There are two important differences to note before thinking about this. One is R&D. On a GDP basis, Israel is number one in the world, and a lot of it is of course within the military. There is a significant amount of technology innovation that is already half-developed. When people leave the army, they take some of these ideas with them. There is no reason why India cannot have an edge in technology innovation, but it is not going to emanate from government spending through the army.

Susan Thomas: I like the Luigi Zingales idea (proposed in 2009) to first let a market exist and then regulate it. Regulation is supposed to come in when you have an open market with a lot of access, when you have a vibrant competitive market place. If you see a persistent market failure, regulation should then come in. We do not have crowd funding, but we do have regulations on alternatives to investment financing under which you can cover crowd funding.

On the question about the FSRLC, I think the FSRLC made one mistake: they suggested two regulators. I think we should have one because at the end of the day, finance is a single portfolio. Deposits are just one more part of a person's portfolio. Then why put a separate regulator to look at rules about deposits and add extra baggage of monitoring and surveillance? Supervision and surveillance for a customer should be the same irrespective of the financial product. That is my opinion.

I think what is interesting in the FSLRC report is that it recognised that there are two problems in Indian financial regulations and laws. One is the legislative part, where the laws need to be reformed. Thus, the Banking Regulation Act has to change, and the SBI Act has to be repealed; there are 68 acts -- that have to change -- to be replaced by the FSLRC. There is also process orientation of regulation making, which I think is being put into the handbook. The handbook is a technical report, not a legislative change. I believe that all the regulators have signed up to adopt the handbook. While I am not advocating the need for a single regulator, every regulator should follow a process that gives clarity to the market, and market participants should know about how the regulation is going to get it done. Since regulation affects every participant, very often, we go after regulation as a tool for correcting market manipulation (which is typically the work of one or two individuals or a collusion of individuals). Regulation hits everybody; therefore, it has to be done in a very rigorous way. I think that the handbook gets it right: let us fix the process of regulation, and that can create a sea change even with five regulators.

Sajjid Chinoy: That was my point exactly: perhaps the creation of a super-regulator will not be easy, given the turf issues involving all the regulators. If we undertake the process changes that were mentioned and implement the laws that already exist on the books, a lot of the issues we have discussed will get partially or completely resolved.

Vinay Nair: One thing where I disagree with Susan is I think that sometimes market failure prevents the market from starting.

Susan Thomas: This is a good thing because regulation can ban the product, for instance.

Vinay Nair: I think in the venture capital space, the market does exist, just not at a visible scale to learn from and react. What is happening in a capital-scarce country like India is that capital formation happens at a private level through connections and networks, and angel investors are generally funding small projects. I think it will take a while for that to become larger and visible and for the regulator to get involved. In such circumstances, the error of coming up with a wrong regulation versus not doing anything until later is skewed.

Susan Thomas: That is one perspective. My question is: Why is it not scaling up? Regulation cannot be the only answer. There can be other inhibitive factors. De-bottlenecking a particular factor may not necessarily lead to optimal outcomes. We have a lot of historical evidence from across the world on how to do good regulation; I feel we are doing none of that.

Viral Acharya: Before we conclude this session, I will summarise the discussion. Perhaps the answer to the question “Are our markets globally competitive?” is “No”. A lot of interesting ideas have come up during this panel discussion. I think the points raised about pension and insurance funds allocation are very interesting. The other areas to work on are corporate bonds and bankruptcy reforms, as well as building a level playing field for domestic and foreign institutions.

I would like to thank the panellists and the audience for the lively and interesting discussion.

Panel Discussion II: Inflation Targeting for India

Panellists: **Ajit Ranade**, Chief Economist, Aditya Birla Group
Gangadhar Darbha, Executive Director and Head, Nomura Securities
Subir Gokarn, Director – Research, Brookings India
Rafael Portillo, Senior Economist, IMF
Moderator: **Viral Acharya**, Professor, NYU Stern School of Business

Viral Acharya: The second panel discussion of this conference is on inflation targeting for India. Does inflation targeting make sense? If yes, in what ways and under what conditions? The backdrop of this discussion is that earlier in the year (2014), the Urjit Patel Committee recommended a target for consumer price inflation (which would serve as the measure of nominal anchor for policy communication) at 4% with a band of ±2%. However, a lot of issues came up. On the one hand, it is very good to have clarity and transparency in what the central bank is trying to achieve. The previous Governor of the U.S. Federal Reserve Bank, Ben Bernanke, has spoken a lot about the role the central bank can play in anchoring inflation expectations. By anchoring expectations, the central bank can essentially keep inflation uncertainty down; further, it can keep borrowing costs low across the economy. On the other hand, several issues arise in the context of achieving inflation stability. What tools does the central bank have to achieve inflation stability? Can it achieve inflation stability in a credible manner? What should the target be? If there is a band around the target, what should be the flexibility? What factors should this flexibility depend on?

Besides inflation stability, I think two of the important objectives of central banks are financial stability and high growth. As has often been said, central banks that focus excessively on inflation stability alone sometimes miss the boat on the other two fronts. One could probably argue that the Federal Reserve had perhaps missed the boat on financial stability while focusing exclusively on inflation stability.

Let me introduce our panellists. Our first panellist is Gangadhar Darbha, who is Executive Director and head of algorithmic trading strategies at Nomura. He was part of the Urjit Patel Committee, which made recommendations for inflation targeting for India. The next panellist is Subir Gokarn, the Director of Research at Brookings India. Prior to this role, he was the Deputy Governor at the Reserve Bank of India (RBI) from 2009 to 2012. Our third panellist is Rafael Portillo, who is a senior economist at the International Monetary Fund (IMF). He will provide an international perspective on this issue, given his experience at the IMF in the Monetary Policy and Public Investment divisions. Finally, we have Ajit Ranade, who is Chief Economist at the Aditya Birla Group. He has been on a number of research advisory committees in India. I am told he has very strong views on this topic. We begin this panel discussion with Gangadhar Darbha.

Gangadhar Darbha: Good evening. I think on the face of it, inflation targeting is a topic that naturally flows from the previous panel discussion on "Global Competitiveness of Indian Financial Markets." For me, the takeaway from the previous session are two words: regulatory clarity and inflation expectations. Inflation targeting actually involves both these aspects. Creating a framework for inflation targeting requires the regulator to clearly specify the framework of the policy and to tackle inflation expectations. This is the theme of my talk. I would like to first tell India's inflation story and then move on to how we really should go about targeting inflation.

Let us ask some basic questions. Is the recent bout of inflation higher than in the past? Is the current bout of inflation in India higher and different than in its comparators? Is the current inflation more cross-sectionally distributed and persistent than it was in the past? Clearly, even a casual look at the data indicates that during the last five years, India has moved into stepped up levels of inflation than was the case in the past. We really do not need to argue too much about that. Food inflation and overall inflation patterns have been high over the last few years.

Perceived inflation and actual inflation as well as inflation expectations have become increasingly persistent. Today's inflation expectations and the inflation expectations for one year ahead do not differ from each other. This is an indication of the persistence of the inflationary pressure. Thus, inflation is not only high, it is actually persistent in aggregate. This is not a global phenomenon or an emerging market phenomenon. Compared to emerging markets, India has been far ahead of its comparators on the inflation front over the last five years. In India, inflation is high, persistent, and higher than that of its neighbours. The kernel density function (which explains the patterns of the cross-sectional distribution of inflation in India) shows that from 1994 to 2012, an increasing number of sectors of inflation are herding or moving together. There is systematic positive skewness, and the cross-sectional distribution is moving positively through time, which is an indication of inflation herding in this space.

Inflation is high; people have been talking about food inflation or oil inflation being important. Is that the entire story, or is there something more to the current inflation compared to that in the past? We built a time-varying parametric model to look at impulse response functions, which showed the impact of energy price shocks, food price shocks, and money supply shocks on manufacturing inflation. The results indicated a clear increase in the way manufacturing inflation responds to supply shocks. Thus, while the high overall inflation may be driven by the food and oil sectors in this context, the response of the entire system itself seems to have gone up.

There is an interesting Hindu mythological story of '*Amrut Manthan*' that I always quote. When the Gods and the Demigods were churning the ocean to get *Amrut*, what came up first was *halahal*, which is poison. In much the same way, I think in the Indian economy, the churning for *Amrut* (i.e., the growth process and poverty alleviation) had started in 1994; however, what we seem to have ended up with is inflation. In the short run, the prevailing level of inflation is due to the presence of bottlenecks; in the medium run, it is due to the policy mix; finally, in the long run, it is on account of the choice of growth process that we have undertaken. I think the kind of socioeconomic inequality prevailing in our country is itself generating inflation; which is not quite recognised. This makes the process highly inertial and highly persistent; hence, something fairly drastic needs to be done.

Of course, we can always turn back and ask why we are making such a big deal about inflation targeting. If people decide they are happy with 10 per cent inflation, and since there is only 8 per cent inflation, there is room for relaxing the monetary policy. However, when we look at the nationwide election results—both state- and national-level ones—inflation is the most important factor that people have voted against. That is, the current levels of inflation are not acceptable to the public.

What are the issues related to inflation targeting? There are three issues like in any organisation: Who wants to control inflation? Who can control inflation? Who should control inflation?

When it comes to who wants to control inflation, there seemed to be a lot of confusion within the RBI for some time in the past. This is where the issue of regulatory clarity comes into picture. Consider the RBI versus the Government of India. This is where the Financial Sector Legislative Reforms Commission (FSLRC) recommendations and the debates around it become relevant. That is, should the government specify the targeted inflation rate to the RBI, and should the RBI monitor that? The institution that has both the instruments as well as the incentives to control inflation is the Reserve Bank of India.

When we consider the question "Who can control inflation?," the following problem arises. Suppose we agree that inflation targeting is required and that the Reserve Bank of India is the right institution for this. We then need to establish that the RBI's instruments are effective in controlling inflation. In other words, we need to establish that the monetary transmission mechanism is sufficiently clean and effective.

Assuming that all of these are done, who should control inflation? This is how I read the entire debate as part of the Urjit Patel Committee Report. I believe that the society should ultimately decide who should control inflation. Should the society entrust the government with the responsibility of fixing the inflation target? This is a very serious debate that is on-going. I do not think the Committee has spent enough time discussing this issue, even though they recommended this model to begin with. However, I feel it is the RBI that should set the targets and enforce them. Currently, there is a debate whether the Ministry of Finance should set a target for the RBI because it reflects the people's representation. In terms of a principal-agent framework, it is the first among equals, which is representative of a modern democratic setup.

I would like to conclude with the following quotation that is very instructive. *"It may be a reflection on human nature, that such devices [checks and balances] should be necessary to control the abuses of government. But what is government itself, but the greatest of all reflections on human nature. If men were angels, no government would be necessary. If angels were to govern men, neither external nor internal controls on government would be necessary. … A dependence on the people is, no doubt, the primary control on the government; but experience has taught mankind the necessity of auxiliary precautions."* These were President James Madison's words when framing America's constitution. The idea is that while governments as elected institutions are probably the most suitable for setting targets such as target inflation rates, one can always construct a scenario where governments—who are themselves the producers of inflation—can actually turn the entire process of inflation control to their advantage (against auxiliary institutions).

To conclude, Indian inflation has reached a stage where we require a serious counter policy. As to the question of whether the policy should be formulated by the RBI or the Government of India, I think that at the present stage, the incentives that the RBI has are much more suitable to controlling inflation at the current level. In the current situation, the execution of the inflation targeting policy should be done through a consultative process between the government and the RBI. Thank you.

Viral Acharya: Thank you Gangadhar. Our next speaker is Dr. Subir Gokarn.

Subir Gokarn: I would like to thank the NSE and NYU for inviting me to participate in this panel discussion.

I am going to talk about two sets of issues. I think the constructive way to deal with this topic is to look at the conditions under which a practical inflation targeting framework might work in the Indian context. The first set of issue relates to the fiscal context in which inflation targeting is going to be implemented, assuming that inflation targeting is the outcome of this entire process. Are we looking at a meaningful and achievable inflation target, even if you define it in terms of the range that we have (4%, ±2%)? This is a reasonably flexible range; it does not lock you into a very strict number. In most countries that work within ranges, we find that the approach has served them reasonably well. The question is: Under what fiscal arrangement is this range most likely to be achieved? I think the basic point is that the chances of keeping inflation contained within that range are going to be undermined if there is significant fiscal uncertainty, and if the risk of the deficit overshoots whatever target is set for it. This risk could materialize for two reasons. One is deliberate policy actions, such as the loan waiver policy (which happened at a time when the deficit was relatively small). The other is the financial crisis and its impact on a variety of fiscal parameters such as subsidies or tax revenue collections. I think that both of these factors undermine the feasibility of the targeting mechanism. Thus, the first requirement for a practical inflation targeting framework is some sort of commitment on the fiscal side. My key takeaway from this would be that a credible monetary rule requires a credible fiscal rule. I do not intend to say that every country that has adopted inflation targeting has a fiscal rule. However, when you look at the success of inflation targeting such as this, I think you will find a strong correlation between relatively controlled fiscal situations and the success of the monetary rule. Although it may not be explicitly stated, I think that is an operating condition.

Now, there are two more micro dimensions to this. One is the issue of administered prices. In the past, we have had very significant impacts of either the absence of price corrections or the bunching of price corrections. The Urjit Patel Committee Report notes that the processes of price corrections should be more streamlined, more predictable, and more incremental than they are at present. We know that there is a strong political dimension to price adjustments. I think one reassuring outcome of the last 1.5 years or so is the de-politicization of diesel price adjustments. I think that does reflect the ability of the system to actually move from "waiting till the last minute to make price adjustments" to actually doing it in a fairly systematic manner. This will be important for achieving an effective inflation targeting framework. Another issue on the fiscal front is the transmission mechanism. Here, we venture into a discussion on the government securities market and what blocks its effective functioning. Soon after I joined the RBI, I was asked to put together notes on vitalising the government securities market. I had some of my colleagues do a compilation of the recommendations of every report that had been written on this. We found that the recommendations of each committee varied in matters of detail. Basically, a full bunch of factors for the development of the government securities (G-Sec) market were identified; when we tried to determine which ones were the most critical, the most significant barrier (at least in my opinion) to the development of the G-Sec market was the mark-to-market exemption on statutory liquidity ratio (SLR) securities. I think the lack of incentives for banks (who are the largest holders of government securities) to trade is the major reason why the market has not taken off despite many reform measures.

When we look at what needs to be done to activate the G-Sec market (which has implications for monetary transmission), we have to think about some way of pre-emption, and we need to make significant moves on it. I think the Fiscal Responsibility and Budget Management (FRBM) framework is the right sort of fiscal arrangement that controls the deficit through some sort of commitment. I support the FRBM sub-cap on subsidies, which was proposed in the 2012 budget. However, I feel that the phasing out of SLR in some way is absolutely necessary. Banks face interest rate risks on their G-Sec portfolios, and they need to find ways to mitigate these risks. I think these points provide the fiscal basis for a reasonably practical inflation targeting framework.

Let me turn to a second set of issues regarding inflation expectations. The puzzle that I have been trying to come to grips with is related to what factors drive expectations. In early 2008, we had an episode of a very sharp dip in expectations that was clearly event-driven. Was it just the sense of doom that materialised from the event or was it the more tangible decline in oil prices during that period that was responsible for this sharp decline in expectations? We saw oil prices drop from approximately USD 140 to around USD 30 in a very short span of time, after which oil prices did rise. However, the expectations (as per the data reported in the RBI Household Survey) have remained between 12% and 14% for a long time. I initially thought that food inflation would be a good explanation for this. However, if you take the CPI industrial workers' food inflation sub-index, the sharp drop in that sub-index had no impact on expectations at all. You could argue that the drop did not persist long enough for expectations to be impacted; sure enough, we had a pretty sharp turnaround in food inflation. Further, at that time, along with a drop in food prices, we did have a sharp spike in oil prices as well. Thus, was oil offsetting food? That is another hypothesis that one needs to test. In the brief interlude of monetary easing that we had in 2013, there was an uptick in inflation expectations, which raises the question whether it reflects monetary policy or if something else is going on. I think the analytical challenge for inflation targeting is to identify the best way to bring down expectations. I think there are three factors that we should consider. 1) Food inflation has to be brought down very sharply. This is a no-brainer; there is no question there. I have not come across any story of persistent growth when food inflation has been high. It has been high episodically, for short periods of time. However, there has never been a correlation between sustained high GDP growth and sustained food inflation. Hence, I think that the priority on reducing food inflation has to be very high.

2) I think the second piece of the puzzle is fiscal adjustments, which I have already discussed. 3) Are we relying on the right data on inflation expectations? I do not think we should be relying only on one source. There are all kinds of problems with household surveys, particularly the (psychological) recency effect; i.e., you are typically driven by what you last bought. For example, Indian households (including the affluent ones) are very sensitive to weekly variations in food prices; this does bias their expectations. Therefore, we need another measure. Inflation-linked bonds were introduced last year. However, there are too many restrictions on their trading, which do not allow a reasonable market assessment of inflation expectation. The same problems that are a barrier to the development of the overall bond market are hindering the development of the market for inflation-linked bonds. I think this should be addressed as both an inflation management issue as well as a larger issue of market development.

Viral Acharya: Thank you, Subir. The next speaker is Rafael Portillo.

Rafael Portillo: First of all, I want to thank Viral for the invitation to participate in this panel discussion. Today, I will not talk about India. Instead, I will discuss the international experience with inflation targeting, especially the experience of emerging markets.

I think it will be helpful to clarify what we mean by inflation targeting. Inflation targeting is a framework for monetary policy that is characterised by three key aspects. One is the idea of price stability as the long-run primary objective of monetary policy; this in itself is quite a change from some of the monetary policy frameworks of the past. There is an explicit acknowledgement of the limits of monetary policy, what it can and cannot do. Monetary policy is not good at directly influencing long-term growth or full employment; however, it is quite effective at keeping inflation stable. Another aspect is the public announcement of official targets for inflation. Thirdly, the key emphasis in the inflation targeting framework is on transparency and accountability. It is a transparent framework in which the public at large and the financial sectors know about the objectives of monetary policy; further, there is a lot of information about the central banks' views about and plans for the economy. This depends on the communication strategy undertaken by the central bank. This is not only for transparency reasons (which improve the efficiency of monetary policy) but also in order to be held accountable for the mandate of keeping inflation stable.

New Zealand was the first country to explicitly adopt inflation targeting in 1990. Since then, several emerging markets have adopted this framework. Currently, the number is about 23. Interestingly, no emerging market has abandoned inflation targeting; thus, the framework has proven resilient. Of course, this may not be the case going forward. There are a lot of fairly technical aspects of inflation targeting. For example, should we have a point target or a target range? What should be the horizon over which inflation is to be targeted? Should we focus on core inflation or headline inflation? I am not going to talk about these issues for the sake of brevity. One thing I would want to emphasise is that inflation targeting is as much about missing targets as it is about hitting targets.

When you look at the experience of emerging markets, you will find that emerging markets that follow inflation targeting miss their targets a lot. Some studies reported that these countries missed their targets around 50% of the time. Not only do they miss them, but they do so for prolonged periods of time. Emerging markets that have adopted inflation targeting continue to have inflation rates that are relatively more volatile as compared to that of advanced economies. This is because it takes time for monetary policy to influence inflation; further, the central bank has other objectives in the short run than just hitting an inflation target. Inflation targeting is "flexible" inflation targeting. The focus is on the inflation forecast. Central banks spend a lot of time and resources in trying to understand where inflation is headed in the medium term, and if it deviates from the target, what needs to be done through its policy levers to bring inflation back to the target. Since inflation targets are missed quite often, the central banks need to expend significant effort to understand the sources of inflation. Thus, one of the investments that central banks that adopted inflation targeting have had to do is to develop their analytical capacity to understand the sources of inflation. This in turn will help them to do a better job of forecasting inflation, to help guide policy decisions, and to improve communication purposes.

A related question is: Under what conditions is inflation targeting successful? There was an extensive debate in the late 1990s and early 2000s about whether emerging markets needed to meet certain preconditions before adopting inflation targeting. The idea was that since inflation targeting is a fairly demanding framework, you needed to satisfy a number of conditions in order to target inflation in a right manner. The central bank required independence; you needed to have the right kind of operational infrastructure; your economy could not be excessively dollarized, too sensitive to commodity prices, or too sensitive to exchange rates; and you needed to have a very good understanding of the transmission mechanism. I think the experience of emerging markets has shown that many of these countries did not have all of these requirements in place or had them to a lesser extent. The key requirement in order to be able to adopt inflation targeting is the commitment to price stability. In some cases, countries have gone through an intermediate period where they have some sort of a light framework of inflation targeting, before formally adopting the framework.

Under inflation targeting, price stability must be the priority of the central bank, and its other objectives must ultimately be secondary. For this to be the case, fiscal dominance needs to be absent, and we should not understate the fiscal support. More generally, it is the broader macro environment that makes the task of monetary policy easier. Inflation targeting is not a panacea.

I will briefly discuss the performance of emerging market economies that have adopted inflation targeting. This has been the topic of an enormous amount of research carried out at IMF and elsewhere. One of the findings of such research is that emerging market economies that have adopted inflation targeting do have a track record of low and more stable inflation, less output volatility, as well as lower and less volatile interest rates as compared to the non-inflation targeting emerging economies. Of course there is always the question of whether these are because of inflation targeting or are the results of a broader set of macro policies. There is also evidence that inflation targeting does a better job than non-inflation targeting does in anchoring expectations. The benefits of inflation targeting are more evident for emerging markets than they are for advanced economies. This is not surprising because emerging markets are the ones that benefit the most from the discipline of having a framework that gives you some flexibility in the short run while forcing you to achieve your inflation objective.

Another finding is that emerging economies with inflation targeting have smaller exchange rate pass-through and commodity price spillovers. A lot of this evidence is from before the crisis period. There is an interesting new field of research that shows that countries with inflation targeting performed better in the aftermath of the financial crisis. For example, they have had smaller output declines and less deflation scares; further, because of the anchoring of inflation expectations, there has been more scope for monetary policy accommodation. Thus, during or in the aftermath of the crisis, inflation targeting central banks were able to aggressively lower both nominal as well as real interest rates and allow for a larger nominal depreciation without the concern that the depreciation would then feed into higher inflation. This evidence holds even after controlling for countries with higher reserves, less short-term debt, or smaller current account deficits, all of which lessen the impact of the crisis.

These are the benefits of inflation targeting. However, it is not a magic bullet. Inflation targeting-based disinflations (i.e., efforts to permanently reduce inflation under the inflation targeting framework) are not costless, for either emerging or advanced economies. Finally, another finding of the research is that there are variations in performance across inflation targeting countries. Hence, we should not think of inflation targeting countries as one homogenous group. Some countries perform better than others in terms of their inflation performances and in terms of keeping inflation expectations anchored.

I will conclude with a brief discussion of the disinflation strategies under inflation targeting. One aspect that I want to emphasise is that central banks that have gone through this experience set inflation targets over the entire disinflation path. Thus, they have a target for this year, for the next year, and for the year after that. The idea is to help guide expectations. However, one implication of this approach is that contrary to periods of low inflation, the horizon over which central banks are trying to hit the target for inflation becomes shorter. As a result, countries that have done this tend to miss their targets a lot. This is not surprising because inflation is quite volatile and especially during a period of disinflation, there is uncertainty about how expectations are going to respond. One drawback is that target misses can be problematic, especially when inflation is above these short-term targets, and the central bank is trying to gain credibility with the new policy framework.

Thus, it can help to focus on the medium-term, de-emphasise targets over shorter horizons, and acknowledge that there are risks to the outlook for inflation. You will have an inflation forecast, but you need not treat it as a sequence of targets to hit. You need to understand whether the forces behind the overshooting or undershooting of the target are temporary or persistent. Of course, this will help with your communication to the public, which is very important when you are undertaking inflation targeting.

Finally, to respond to the question of how fast you should disinflate, there are no easy answers. A lot depends on how much indexation there is in the economy, and how much support there is for price stability. So in some countries, disinflation took 10 years while in others, disinflation took 3 years. It also depends on the level from which you start to disinflate. These are some aspects of the experience with inflation targeting in emerging market economies.

Viral Acharya: The last panellist is Ajit Ranade.

Ajit Ranade: I want to begin by responding to Mr. Portillo's comments. He said that several countries have adopted inflation targeting, which works subject to some caveats such as the central bank's independence and effective monetary policy transmission. In this context, I would like to make a humorous analogy. The caveat is like ordering a cup of tea and asking for tea without milk, sugar, and preferably without the tea bag; ultimately, you are left with a cup of warm water. In India, we can afford to say that inflation targeting works only if the central bank has independence. We do not need to go any further.

I.G. Patel, the illustrious former Governor of RBI once said that the supreme test of monetary policy is its ability to check inflation without hurting growth. While nobody has any objection to that, one can infer from this statement that inflation is an objective, and not hurting growth is a constraint. You can switch the objective and the constraint. Even then, implicit in his statement was a kind of non-singular inflation targeting perspective. E. M. Bernstein, one of the co-authors of the I.G. Patel Committee Report, made an observation that is quite pertinent in this context. (I think he was Assistant Secretary of Treasury and later on joined the IMF). He said that ultimately, inflation is not merely a monetary phenomenon but a socioeconomic phenomenon. In fact, it is a social tug-of-war between one section of society that wants a higher share of national income and another section that is not willing to give it up without a fight. I think he was hinting at the existence of a political-economic aspect, which was referred to by Subir and Gangadhar as well. I am going to indirectly come to this point about how fiscal policy is more important than monetary policy in inflation management.

Let us get back to monetary policy in inflation targeting. Why did monetary policy become so important? Why is it that monetary policy has to bear the burden of targeting inflation? This was not always the case; this trend started about 30–40 years ago. I am glad Mr. Portillo also mentioned this fact and reminded us that inflation targeting is a very recent phenomenon. As far as I can remember, the first instance that I saw of inflation targeting was as recently as in 1990, in New Zealand. Monetary independence and the importance of monetary policy in managing inflation (i.e., putting exclusive responsibility on monetary policy) are products of the 1970s. Macroeconomic policy or stabilisation policy is supposed to be countercyclical as per Keynesian thinking. In good times, you cut back on fiscal spending, and in bad times, you increase fiscal spending. However, this does not happen very often in reality, because fiscal spending is a product of politics.

In the recent past (from 2003 to 2008), India had some super fantastic growth. What did the government do? Did they actually implement countercyclical measures? The answer is an emphatic "no." I am not going to debate whether this is right or wrong. I would like to point out that the government went on a spree of what is called "rights-based development"; right to food, right to employment, right to education, and all such rights impose costs. Consequently, there is a view that the benefits of the growth in the country were frittered away; of course, we paid the price later on. What I am saying is that the realization that fiscal policy cannot be trusted to be countercyclical when required existed back in the 1970s. The fiscal guys failed to fulfil their role in inflation management. Hence, the indispensable importance of monetary policy came to the forefront.

Secondly, coming to monetary independence, it means that the monetary policymakers are not subject to the whims of the people in Delhi. If you are going to talk about monetary independence, you have to mention how these people are appointed. Many of them are renowned people from academia; they are not necessarily political appointees. In fact, quite often, they are not. Let us look at the Indian context. I believe that democracy here inherently has a deficit bias because the spending forces have vested interests, and they are determined and focused. On the other hand, the revenue impulses are diffused, and they do not necessarily have any vested interests. Therefore, naturally, there is a deficit bias. This is more acute in the context of India because we generally have a fractious polity, with the exception that for the first time in 30 years, we now have a non-coalition government. Otherwise, when you have a coalition setup, you have an inherent deficit bias, which is when you have to resort to things like the FRBM. In such conditions, the tendency of fiscally induced inflationary phenomena is much greater. As Gangadhar said, India's recent inflation experience (which is high) is an uncommon one. Persistently high inflation for a long period of time is not comparable with our own past record or with that of other emerging market economies, forget that of developed economies. Of course, it is largely contributed by food inflation. In my opinion, food inflation has a lot of fiscal policy components to it.

What are the determinants of food inflation? India's food policy is basically a combination of procurement, stocking, and fixing of minimum support prices, which are always politically determined so much so that the minimum support price (which is an insurance price) becomes a *de facto* procurement price. There is political pressure to keep raising the minimum support price. This is coupled with the near monopoly-type conditions prevailing in the process of procurement and distribution of food, which is dominated by middlemen (*mandies* or APMC). Thus, there is a very significant fiscal or political component to the determination of food inflation. I am not denying the role of productivity, science and technology, and better agricultural practices.

What is the solution to this high inflation? In my opinion, the effective solution, at least in the Indian context, has been the political system. That is why I claim that fiscal policy will continue to be the more important determinant of inflation management in India.

Finally, I want to discuss why exclusive inflation targeting in India is quite inappropriate. I think these factors are well-known; however, there is no harm in repeating them. We are talking about transparency and accountability in inflation targeting. Firstly, the Parliament will give them a target; therefore, the monetary authorities do not have the freedom to choose their target. Secondly, you give them an instrument (i.e., the short-term policy rate), but you do not give them the freedom to choose this instrument. The committee will have eight members most of whom are politicians or politically appointed; so you can always be overruled. Thus, you do not have objective independence; neither do you have instrument independence. The rate of transmission of monetary policy is very slow. First comes the announcement, then the actual action, the outcome, and finally, the assessment of the outcome. This process takes 18 months; i.e., you are going to tell the public in Parliament that a decision that the RBI took 18 months ago is responsible for what is happening right now. I think this process is inherently clumsy.

Finally, Viral said that I should make a strong concluding statement. My statement is: "If it ain't broken, why fix it?"

Viral Acharya: Since we are short on time, we can address only a few questions from the audience. I would be happy for any/all of you (panelists) to respond. The sense that I get from a number of views is that perhaps inflation is neither purely a monetary nor a socio–economic phenomenon; instead, it seems like a fiscal phenomenon. I think you can vote out a government, which would be a solution to get some fiscal remedy. The trouble is that these governments have long terms. How do you deal with the consequences of the actions that have already happened during a government's tenure? I think you have rightly put forth the idea that the government is not going to be countercyclical necessarily. Thus, you have an independent entity (to whatever extent it is independent), and you can lean against the wind of that policy and achieve something. I guess my concern is with saying that voting out the government is a post-fact response to the problem.

Ajit Ranade: Since India's independence in 1947, I think the one single achievement of the political parties has been that we have never had hyperinflation, though there have been periodic high spikes. This is to the credit of the political system—it is quite responsive and sensitive to this issue. It is only during these last five years that the political system has not reacted to this situation. One reason for this was a divided opposition. Another was the failure of the planned nationwide strike against high inflation in July 2009.

Subir Gokarn: I would like to add another dimension to this. Just as we might say that we have had the lowest inflation track records in the past, we probably also had among the lowest growth track records. I do not think you can separate the two.

Viral Acharya: My concern is that this is the cost borne in terms of growth at this low base for three years. It has changed from where we are now trying to take off.

Subir Gokarn: I would like to mention two episodes where with an acceleration in growth, we witnessed a spike in inflation after a relatively short lag. 1994–1997 is one example. Later, we saw inflation starting to spike around 2006–2007. Clearly, there is some kind of supply side dynamic at work there.

Gangadhar Darbha: I think in discussing this, we should distinguish between two aspects. One is: What should be the target for monetary policy? The other is: What causes inflation in India? We should not confuse these two issues. If there are 20,000 factors that cause inflation, that does not necessarily mean monetary policy should address all those 20,000 factors. Among the possible things that monetary policy can do, inflation targeting is the highest. Raghuram Rajan's idea of bringing in transparency and predictability should be interpreted as simplifying the framework for monetary policy.

Ajit Ranade: That is why I quoted I. G. Patel, who said that the supreme taste of monetary policy is its ability to check inflation without hurting growth. Thus, inflation is obviously a priority.

Gangadhar Darbha: On a lighter note, there is not much difference between the two Patels. In the second Patel Committee (Urjit Patel Committee), what we said was that high inflation hurts growth at the current level of inflation. If inflation is brought down, it would help growth.

Ajit Ranade: My discomfort was actually with the exclusive mandate. I suppose you are right.

Arvind Subramanian: I have two very quick questions. One is for the votaries of inflation targeting. Suppose you were to perform the following thought experiment. After having seen this rapid growth, and considering that society's preference for the trade-off between growth and inflation has changed considerably in the last seven years, what would have been the outcome on inflation, had there been an inflation targeting framework in place? The second, rather analytical question is to Rafael. Inflation targeting seems to work in a world with flexible exchange rate. However, in the last five years, I think the IMF has documented that in terms of exchange rate regimes, we are moving to a heavily managed float. This indicates that an increasing number of countries do not want their exchange rates to appreciate. Thus, we have a quasi-target on exchange rates. In such a framework, what is the experience with inflation targeting?

Viral Acharya: Before the panellists respond to these questions, let us hear what Sajjid and Ratna have to say/ask.

Sajjid Chinoy: I would like to add a quick analytical footnote to what Dr. Gokarn was saying about inflation expectations. The Report includes a discussion of our study of what the drivers were. We found that a shock to food inflation was very persistent, and it affected inflation expectations by around 100 basis points and continued for nine quarters. However, a shock to fuel inflation affected expectations by 60 basis points and went on for eight quarters. Between 2010 and 2012, oil prices went up from USD 80 to USD 110. Thus, if you decompose inflationary expectations, much of that stickiness in the phase of temporarily declining food inflation can be explained by rising oil prices. Shocks to core inflation had almost no impact on expectation, which is what you would expect, given the infrequency with which you have core purchases.

The larger question is what we want fiscal policy makers to correct. We know that there are structural impediments to food inflation. I think when the central bank takes decisions about inflation targeting, the question is not about solving it in a game theoretic framework for a cooperative equilibrium. In fact, it is solving for a Nash equilibrium. Thus, does moving to inflation targeting increase the incentive compatibility of the fiscal policy makers to cooperate?

Ratna Sahay: I would like to make two points and ask Gangadhar one question. There is clear evidence of a very strong relationship between fiscal deficits and inflation in a country over the long run. The way the world has evolved, there were two groups of countries. One group had high fiscal deficits, and what they did was financial repression. The second set of countries (like the Latin American countries) basically inflated away the debt. The Asian countries were more into financial repression, and so was the Middle East. What has happened in India is that fiscal deficit has been persistent in this country; yet, we have not seen very high inflation like we saw in Latin America. The reason for this is financial repression. To me, this is quite amazing. I think we have reached the limits of financial repression; now, the government is looking at the inflation side. In my opinion, this is extremely dangerous. I completely agree with those of you who say the fiscal side really needs to be brought into control; even if you have inflation targeting, as long as there is fiscal dominance, it is not going to work. However, inflation targeting (which I fully support) is needed because it will provide the transparency and commitment that were mentioned earlier.

My second point is that if there is any price shock on the supply side, it is just a one-time shock (I am not certain how true this is). Unless there is monetary accommodation, you cannot have inflation. So the RBI has to bear the brunt, maybe under pressure from the government. There are problems on the supply side, which the government needs to fix. However, it cannot be the case that supply shocks are going to lead to persistent inflation. I think there is also an issue of wage indexation, which drives the cost, at least in the organised sector. I do not know what its significance is, but I feel there is a component of that which we are missing.

Finally, I have one question. I think it was Gangadhar who said something about the short, medium, and long term. I could agree on the short and medium term but I could not quite understand why inflation would be determined by the choice of the growth path or something in the long run. Gangadhar, could you explain this further?

Viral Acharya: Let me rephrase Arvind's questions. Think about the housing price inflation in the United States during the 1990s and 2000s. It is a very limited side of inflation, which does not even make it to the measured inflation very accurately. It is very clear there was an induced government housing policy. However, I think the real debate is whether the Federal Reserve should have leaned against that counter–cyclically, given that they had monetary independence. I agree that if you do not have independence, you cannot really do anything about it. However, the counterfactual which is of interest is what would have been the United States situation, if they had actually reigned in the mortgage, lending, and the housing price growth? On the one hand, we have the fiscal pushing in, and the question is: Could monetary policy have leaned against it? On the other hand, is the counterfactual that we are all interested in. It seems that some countercyclical response in the system might have led to different outcomes.

Ajit Ranade: Assuming that the asset price had already been incorporated into the headline inflation numbers by then.

Viral Acharya: No, that is the whole issue. There is a disparity in the way housing prices grew in the United States and the way they are accounted for in the inflation.

Ajit Ranade: They never factored in the asset prices.

Viral Acharya: Yes. The question people are asking is: Had the Federal Reserve acted in a countercyclical manner to house price inflation, would the end point for United States have been different?

Ajit Ranade: If you include the house price information in the measured inflation numbers, you would do something similar to what Dr. Reddy did. In a way, you are in the paradigm of this prudential risk, with housing loan and all that. It is no longer a counterfactual if you believe and accept that Indian financial markets were able to avoid something like that.

Gangadhar Darbha: There are issues related to all these empirical relations. You have the Lucas critique that propounds the instability of such relations that come from a previous regime where inflation expectations are not moderated. To connect with the question that Ratna asked, I think you have to consider two counterfactuals: high fiscal deficits-accommodating monetary policy and high fiscal deficits-non-accommodating monetary policy—and determine which maximises social welfare. Clearly, non-accommodating monetary policy would be better in the long run with that trade-off. When Dr. Rangarajan did away with ways and means advances, automatic monetization disappeared, and that was a substantial improvement in conducting monetary policy. In the context of accommodating monetary policy, I would like to refer to Friedman's statement that inflation is generated by many non-monetary factors but it sustains itself by monetary accommodation and in that sense it is a monetary phenomenon (I think this was mentioned by Ajit earlier).

Perhaps I should have been a bit less flippant when I talked about the growth and inflation problem, and how the sociologists looked at it. In the 1960s and 1970s, European sociologists studied inflation from a sociological perspective. One of the points they make is that inflation is an outcome of social conflict when growth leads to inequality. In modern democracies, inequality leads to the formation of lobby groups, which makes the fiscal deficit persistent. While we can tell the government to reduce the fiscal deficit, politicians will laugh at us because they think we do not see the underlying social current. When I made a statement about the "choice of growth," what I meant was the socio-political consequences of the growth choice that we make. If you chase high growth without paying attention to the inequality-related social consequences, fiscal deficit will never come down; further, fiscal deficit will always put pressure on inflation.

Subir Gokarn: The larger context to Arvind's question is that it is not just a counterfactual of inflation targeting within the existing framework. I think we have to take into account the impact of exchange rate policy, the responses to reserve accumulation, and how that had a bearing on credit, among other factors. We also have to consider the agricultural policy because at that time (i.e., around mid-2000), the transition to non-cereal consumption patterns took place. We could have had a more manageable inflation scenario with slightly lower growth, which I think is quite reasonable. To answer Ratna's question, supply shocks are not one-off shocks We have had a 90% increase in procurement prices over a five-year period. This can only be seen as a persistent shock. You correlate that to the increase in daily wages at the lowest end of the wage hierarchy. The best things that have happened in the last few months on the food front are: the procurement price of rice was raised by 2% as opposed to the cumulative 90%; and wheat and rice are both being sold out of stock. I think this is a quick low-hanging fruit in terms of using whatever tools you have on the supply side instead of waiting for agriculture reform to play itself out. In the short run, people are recommended to import vegetables, which can help to dampen the inflationary expectations.

Rafael Portillo: In terms of the list of requirements that I mentioned, what I meant to say was that in practice, central banks did not fulfil all those requirements. However, that is not necessarily a handicap or an impediment to adopting inflation targets. I think the main thing is the commitment to price stability. In countries that do inflation targeting, a lot of attention is paid on trying to have a sense of what potential growth is and what the output gap is. Of course, the central bank may have expectations about growth. However, if those expectations are not realized and inflationary pressure starts to build up, that is an indication that perhaps the potential growth is not as high as expected. Thus, the central banks (who are ultimately responsible for price stability) have constantly grappled with the following challenge on the inflation targeting front: if inflation starts to drift, then it is the central bank's responsibility to bring it back in line with the target. I think the issue of managing the exchange rate is also quite important because it was an aspect of the broader policy frame that was not acknowledged explicitly when IMF country teams would visit countries. Everybody knows that central banks would intervene in the forex market for a number of reasons, even when they have an inflation targeting framework, such as to prevent large fluctuations in the exchange rate, among other things. The concern arises when the exchange rate dominates the response of the central banks. When central banks do not raise interest rates out of concern for the exchange rate, they lose a bit of the inflation anchor, and consequently, they face harder trade-offs down the line. The international evidence clearly indicates that when there is no clear nominal anchor, inflation expectations will drift. You see this in advanced economies, though some variation may be observed across inflation targeting countries. Generally, countries that adopt inflation targeting do a much better job of anchoring inflation expectations. In an inflation targeting framework, the expectations become more stationary. They become less dependent on recent inflationary episodes.

Viral Acharya: Thank you very much all of you for a very lively and interesting discussion.

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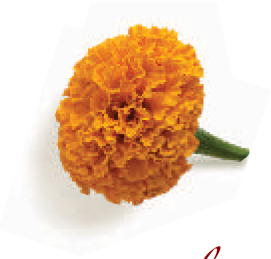

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